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RUSSIAN VERBAL STRESS

A PRELIMINARY ANALYSIS



by

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Russian Verbal Stress - A Preliminary Analysis" submitted by John Androschuk in partial fulfilment of the requirements for the degree of Master of Arts.



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An Abstract of  
RUSSIAN VERBAL STRESS - A PRELIMINARY ANALYSES

The major portion of this thesis is devoted to the discussion of the problems inherent in the description of Russian stress. It includes an analysis of the various verbal classes into categories exhibiting characteristic stress properties. The remaining sections introduce the stress assignment rules formulated on the basis of regularities found in these categories. An attempt is made to incorporate the rules into the transformational cycle of existing phonological theories dealing with verbal derivation. As a result of this analysis it was found that the stress assignment rules could not be incorporated into the transformational cycle but that stress could be assigned to the verbal forms post-cyclically.



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# CHAPTER I

## THE OBJECTIVE

1.0 The aim of this thesis is to present a partial phonological component of a grammar which will deal with the accentual system of the Russian conjugation. Specifically, it will investigate the accentual patterns in the conjugational paradigms from a synchronic point of view and attempt to formulate general rules which will predict the proper accentual stress location in the finite forms of the verbal system. Further, it is a preliminary attempt to incorporate additional phonological rules for the prediction of stress location into the already existing phonological theories which underlie the description of the Russian conjugation (Halle, 1963; Lightner, 1965a, 1967). Since the segmental phonology of Modern Standard Russian has been treated exhaustively elsewhere (Lightner, 1965b) and the theory of phonology which underlies the description of the Russian conjugation advanced by Morris Halle and Theodore Lightner accounts adequately for the phenomena encountered in the conjugation, these will receive only secondary consideration and will be employed without any essential change. Because of the complexity of the problem, only a certain portion of the finite forms will be dealt with. The particular finite forms investigated in this thesis and the reasons for choosing them will be discussed more fully in the introduction to Chapter 3. Also, in the discussion of the data presented, it is hoped that this thesis will provide further insight into stress in the Russian language, and that the conclusions reached will provide a basis for a more extensive investigation into this problem.



1.1 The phenomenon of accentual "stress" in Russian (henceforth referred to as stress), usually referred to as dynamic or mobile stress, since it can fall on any syllable of a word and on different syllables of the same word within the declensional or conjugational paradigm, is characterized simply by a more forceful pronunciation of the syllable which receives the stress. Intonation or vowel length, integrally connected with stress in certain other Slavic languages, are not features of Modern Russian. Also, in contradistinction to English, for example, where polysyllabic words contain secondary, tertiary, etc., stress, Russian admits only one primary stress in independent, non-compounded, non-foreign words. Compound and foreign polysyllabic words do occasionally contain secondary stress. This thesis will be limited to the investigation of this primary stress only and will not consider prefixed verbs except in those cases where the prefix has become a bound morpheme and cannot be separated from the verbal root. Also, secondary verbal forms, derived by means of infixation and suffixation from the primary unprefixated verbs discussed here, will not be dealt with in great detail since they exhibit stress patterns distinct from those of the primary forms.

Before proceeding to the presentation of the data, a discussion outlining some of the problems involved in the attempt to establish a system for stress prediction in the Russian verb is in order. Here, the methodological approach to the problem will be developed.





## CHAPTER II

## SURVEY OF THEORETICAL PROBLEMS

2.0 Over the last half-century or so, much attention has been given to the problem of Russian stress, although the approach has largely been a traditional one. The description of Russian stress has usually been from a strictly taxonomic point of view, which failed to give some system whereby stress could be "predicted". Those works which did attempt to explain stress position in Russian were generally based on the reconstruction of stress from Common Slavic or Balto-Slavic intonation. These are too numerous to cite and have no essential relevance to the present discussion. However, the cited methods, together with the comparative study of modern Slavic languages which still retain this intonation system in association with vowel quantity, have yielded much insight into this feature of Russian phonology. Unfortunately, they have failed to offer some system by which the alternations of accentual patterns could be set out with some measure of predictability. Moreover, intonation, on which these analyses have been based, is not a feature of Modern Russian and cannot serve as a justifiable criterion on which to base a strictly synchronic description of Russian stress. In a synchronic description of this type the only facts that can be brought to bear are the primary linguistic data (Lightner, 1967 :51). The only motivation for the introduction of underlying historical data into a synchronic description of a language, in order to arrive at a more descriptively adequate explanation of some phonological process, is if a reflex of that process still remains in the language at the time the language is being investigated, and only if this reflex cannot be explained by some general rule which does not require this historical





data for explanatory adequacy. It cannot be denied, however, that a sound knowledge of the historical phonological processes of a language greatly aids in the formulation of more natural rules in a synchronic description. Since the abstract phonological markers in a strictly synchronic description map into phonetic features or matrices of features, certain rules which indicate more plausible phonological changes should be more highly valued than those that do not. If this is true, then historical data can serve as a criterion on which to evaluate this factor of plausibility, and the acceptance or non-acceptance of certain phonological rules could presumably be based on whether or not they adhere to historical fact. On the other hand, this is not always justifiable nor desirable, as pointed out by Paul Kiparsky (1968:13):

It is a very natural, though theoretically unjustified, desire to have synchronic descriptions reflect diachrony to the greatest possible extent. The greater the similarity between synchronic and historical grammar, the less work either of them involves for the linguist. It would be ideal if we could simply provide the arrowheads of historical grammars with shafts to get synchronic descriptions, and perform the converse operation to Sound Pattern of English to get a history of English phonology. But unfortunately we cannot assume that synchronic grammars necessarily have a form which takes the hard work out of internal reconstruction. Children learning their native language do not necessarily have the interests of linguists at heart.

However, he points out (1968:13) "that while it is invalid to argue for or against a particular phonological analysis on the grounds that it does, or does not, reflect historical developments, numerous kinds of valid and fruitful conclusions may still be drawn from diachrony to synchrony."

In this thesis, recourse to historical data will be minimal and will only be necessary in order to justify the stress patterns and



derivations of a small group of verbs in which there has either been a shortening of the root through the loss of historical semi-vowels or where pleophony has occurred, resulting in the creation of a different form of root distinct from the historical one. As a result of this pleophonic process, two different types of verbal roots must be accounted for in some way, one distinctly Russian and one of Old Church Slavonic origin. It should be understood, however, that the historical data introduced will only be used as additional support for the abstract representations of the various verbal roots formulated.

2.1 Although several good synchronic studies of Russian stress have recently been done, the majority of them do not differ from the traditional taxonomic descriptions in that the data presented is not systematically incorporated into some general rules which could be applied for the prediction of stress in all of the verbal forms. The larger portion of these studies are limited to a particular type or group of verbs and the data is not related to the verbal system as a whole, i.e. there has been no concentrated effort at establishing some generalizations about the verbal stress in general. One study in particular, that of V.A. Red'kin (1965), is of great significance for a synchronic description of verbal stress. In this article he shows the correlations between the stress patterns in a particular class of verbs and the stress patterns in the nouns and adjectives from which these verbs have been derived. From these correlations certain stress rules can be derived, although, as will be shown later, only a few direct correlations exist; i.e. a certain type of stress pattern in the noun is not always directly reflected in the verb. The main difficulty, it seems, is that in the nominal and adjectival paradigms



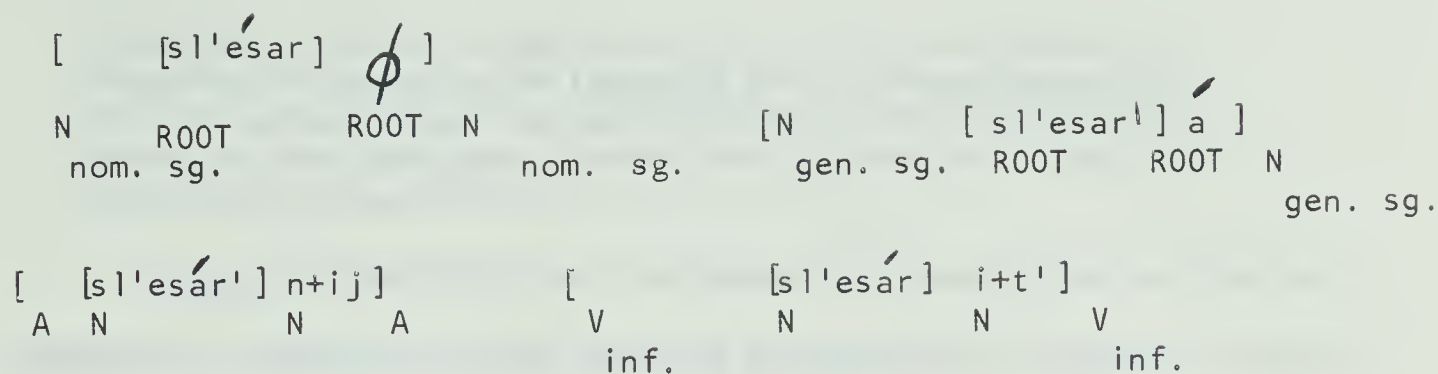
there are more stress patterns possible ( 12 in the nominal paradigms) than in that of the verbs, in which only three are found (cf. Chapter 3).

To date, only Morris Halle (1963) has attempted a partial solution to the problem of stress prediction by incorporating certain stress shift rules into the cyclical rules of his phonological component of a grammar which deals with verbal derivation. If elaborated upon, these rules could have accounted fairly adequately for stress prediction in the majority of the verbal forms. As it is, the stress shift rules predict stress only in those verbal forms where the stress remains static throughout the entire paradigm, or in those where stress remains constantly on the desinence. These two patterns do not exhaust the possible stress patterns reflected in the verbal system, and hence Halle's rules have only limited application. Notwithstanding the limitations of these particular rules, Halle does point out that stress prediction could be accounted for by general rules incorporated into the phonological component, indicating the position stress prediction rules should occupy in the grammar. There seems to be no reason to doubt the correctness of this claim and therefore this approach will form the basis of our investigation.

2.2 It was mentioned in Chapter 1 that Russian stress is usually referred to as mobile stress, meaning that stress is not assigned to any particular position within the word, as, for example, initial position in Czech, or penultimate, as in Polish. This mobility of stress can be illustrated by taking some root, e.g., sl'esar' (nom. sing. of the noun sl'esar' 'metal craftsman'), and examining the stress position in other categories where this root appears.







As can be seen from the above examples, stress seems to be morphologically conditioned; i.e. stress is on the first syllable of the root in the basic nom. sg. form of the noun, on the desinence in an oblique case, and on the last syllable of the root of the adjectival and verbal forms. Although there are roots in Russian which retain stress on the same syllable in other categories, the above type of stress shift within the root is typical in the language. Clearly, the difficulties which begin to arise from such a situation can easily be foreseen. In the verbal forms, the fact that stress occurs on a root from which the verb is formed is no guarantee that the stress will remain on that root in the verb. A good example is the root kr'ep(k)-, from the adjective kr'epk'ij 'strong firm', from which three different classes of inchoative verbs may be formed; kr'epnut', kr'epčat' and kr'ep'it's'a, 'become strong, firm'. Not only does the stress differ in the derived verbal forms, the latter form belongs to a different conjugational type. It is quite clear that the vowels in any given morpheme cannot be said to have an inherent feature of stress. Postal (1968:121, fn. 3), in speaking of the feature of stress in Mohawk, quite adequately described a situation which also exists in Russian:

It should be emphasized that marking vowels in the dictionary with the feature of Stress itself is quite out of the question. No vowel in any morpheme in the language is





inherently either stressed or not. This is completely a function of position in the word and is hence determined by the morphological structure of the infinite class of words in the language. Stress must therefore be assigned by rules of some kind.

Jakobson (1948:157), in his synchronic description of Russian conjugation, categorized the verbs as having either accented or unaccented stems and gave several rules for predicting the stress in the finite forms of each type. Unfortunately the rules were in prose form. Further, the accented stems were sub-classified into those in which the stress was irremovable and was bound to the stem and those in which the stress, under certain conditions, was moved from the stem to the desinence. The unaccented stems were either never stressed or the stress oscillated between two different syllables of the stem. This type of treatment of the feature of stress suggests the use of a diacritic feature in the lexicon associated with the lexical formative as a whole rather than phonological features associated with a given vowel of a word. In fact, this is the approach suggested by Chomsky and Halle (1968:376) for treating the problem under discussion:

The salient property that distinguishes stress in Russian and Bulgarian from other phonological features is that once it is determined which vowel in the word receives the main stress, the stress contour of the word is also determined. The fact that stress must be indicated for only one vowel of a word suggests that this vowel be designated by means of a diacritic feature associated with the root of the word. There appears to be a fair amount of evidence--although a definitive demonstration is still lacking--that the location of this vowel in Russian words can be determined by quite simple rules, given the structure of the word and some idiosyncratic information about the stress behavior of the root (in particular, whether or not the root takes stress; if not, whether main stresses must be placed on the suffix following the root or on the case ending; etc.) Once these facts are known, the location of the main-stressed vowel is directly determined. In terms of the framework that has been developed here, this



means that the root will have to be provided in the lexicon with a few (perhaps two or three) diacritic features which will then provide enough information for the rules to locate the main stress on some vowel in the word. Subsequent rules then determine the stress contour of the word.

The suggestion that the root be provided with several diacritic features to enable the rules to locate the main initial stress in a root seems quite correct if the previous three examples of the inchoative verbs, kr'épnut', kr'epčát' and kr'ep'ít's'a are examined. Obviously, it is insufficient to merely designate the root kr'ep(k) as accented or potentially capable of receiving stress, since the stress changes from one category to another (i.e. adjective and verb) and within the same category. This indicates that not only is syntactic information necessary, but also morphological information which will differentiate between the various sub-classes of lexical formatives within the same category; i.e. the lexicon will have to contain information that will differentiate the root-stressed -nut' type of inchoative from the end-stressed -át' and -ít's'a types. In addition, the lexicon will have to contain further information such that certain adjectival roots, for example, are restricted to a choice of one or another inchoative suffix, since not all adjectival roots are amenable to suffixation by all three inchoative suffixes (i.e. co-occurrence restrictions between the root and the choice of suffix must be taken care of in some way, unless these can be predicted on the basis of the phonological shape of the root, for which there is no clear evidence at present). From the adjective suxój 'dry', for example, the form with the -at' suffix (\*sušát') does not occur, but the forms sóxnut' and sušít's'a do. Whether the form \*sušát' is possible in the language and its non-occurrence is to be explained





as an accidental gap in the language, or whether there is some inherent semantic feature associated with the root that disallows this combination, is difficult to say. It is highly unlikely that it is the phonological shape of the root which disallows this combination. There are verbs of the type straš<sup>v</sup>cat' 'frighten' (although not an inchoative) and the reflexive straš<sup>v</sup>it'sa formed from the noun strax 'fear', which is identical to sux-in its stem-final consonant.

The need for diacritic features associated with the root for facilitating the location of initial stress is quite apparent from the following examples of denominal and deadjectival verbs.

<u>kvas</u> <sup>v</sup> <u>it'</u> 'make sour';	<u>kvas</u> <sup>v</sup> 'kvass' nom. sg., <u>-a</u> gen. sg., <u>kvasy</u> pl.nom., <u>kvasov</u> pl. gen.
<u>čis</u> <sup>v</sup> <u>l'it'</u> 'count';	<u>čisló</u> 'number' nom.sg., <u>-á</u> gen. sg. <u>čisla</u> nom. pl., <u>čis'el</u> gen. pl.
<u>slozn</u> <sup>v</sup> <u>it'</u> 'complicate;	<u>složnij</u> 'complex', <u>složnogo</u> , gen.sg.m., <u>složen</u> nom. sg. m. short form, <u>složná</u> nom.sg. f. short form.
<u>xval</u> <sup>v</sup> <u>it'</u> 'praise';	<u>xval'ú</u> 1 p. sg. pres., <u>xvál'iš</u> 2 p. sg. pres; <u>xvalá</u> 'praise', nom. sg., <u>xvaly</u> gen. sg.,

From the above few examples, which typify some of the stress shifts within the paradigm and across categories, the need for such diacritic features becomes quite strong. In the first example, stress in the singular nominal paradigm remains constantly on the root, in the plural on the desinence. The verb shows constant root stress. In the second, the stress is on the desinence in the singular forms and on the root in the plural. The verbal forms exhibit constant root stress. The third example shows constant root stress in the long adjectival form of the adjective and mobile stress in the short forms, whereas the verb exhibits constant end stress. In the fourth example, the stress in the singular nominal forms is on the desinence; the verbal



paradigm shows recessive stress. Obviously, there is little correlation between the stress patterns in the nominal paradigm and the verbal paradigms. This, in essence, underlines the necessity of marking every root with respect to its behavior in the verbal paradigm, regardless of its potential accentability or unaccentability within the nominal paradigms. In this thesis it is proposed, therefore, that the use of diacritic features associated with the root is necessary until such time that stress shifts of this sort can be predicted on some phonological basis. The phonological rules proposed in this thesis will use this information to locate the initial stress in the underlying basic verbal forms in the lexicon and subsequently the stress location in the finite forms of the paradigm. Before proceeding to the presentation of the data, it is necessary to establish the underlying basic forms of the verbs which will appear in the lexicon, and the labelled bracketing of formatives which will be the input to the phonological component of this partial grammar.

2.3 If we proceed from the theory which underlies the description of Russian conjugation as postulated by Morris Halle and Theodore Lightner, the input to the phonological component for the present tense of the verb would be a labelled bracketing of formatives as follows:

$$\left( \begin{array}{ccccc} & (\text{ROOT+VERB SUFFIX + PRESENT}) & + & (\text{PERSON-NUMBER}) & \\ \text{V} & \text{PS} & & \text{PS} & \text{E} & \text{E} & \text{V} \end{array} \right)$$

where V = Verb; PS = Present Stem; and E = Ending. The representation proposed for the 1sg. pres. of the verb plakat' 'cry' would then be ((plak+ate)+u). This labelled bracketing is based on Roman Jakobson's formulation of the basic stem (1948), and the phonological rules are





formulated such that they apply in cyclical fashion to the smallest immediate constituent within the brackets and thence to the largest until the bracketing is erased.

The basic stem, as formulated by Jakobson, is in essence a rejection of the traditional notion that every verb has two distinct stems: one from which the present tense, the imperative, and the participial forms, pres. active and passive, are formed; and the other for the past tense and the past participial forms. In contradistinction to this traditional approach of postulating two distinct verbal stems, Roman Jakobson took only one stem as basic from which all other stems could be predicted on the basis of environment, and which was usually the longer of the two traditional ones. This can be illustrated by the verb plakat' 'cry'. The basic stem will then be plaka- which underlies all forms constructed on the basis of the traditional past-infinitive stem, and also those forms constructed on the basis of the present stem. In order to adapt this basic stem plaka- to the present tense forms, a single vowel truncation rule will truncate the stem-final vowel before any morpheme beginning with a vowel. Thus the stem will now be plak- before the vocalic-initial suffixes of the present tense forms, which follow directly after the basic stem. This basic stem, i.e. plaka-, will not be altered before the past-infinitive suffixes which begin with a consonant.

For the purposes of this thesis the Jakobsonian stem will be adopted as such without any essential change, although the bracketing of the IC's will be altered slightly. It is not known how the base component of a Russian grammar will generate a labelled bracketing such as the one used by Halle and Lightner, although presumably it



is based on the assumption that the underlying form for every verb in the lexicon is the basic stem; i.e. ROOT+VERB SUFFIX. This seems unjustifiable for several reasons.

The basic stem is a combination of two separate morphemes; the root morpheme plus a verb suffix, which is a combination of a class marker and an indicator of aspect. However the VERB SUFFIX is not entirely the marker of aspect by itself, as pointed out by Ju.S. Maslov (1963:10); "... when considering the system of the expression of Aspect, one should proceed not from the separate 'morphemes of aspect' as such, but from specific combinations of aspectual and non-aspectual morphemes (including the root morpheme) within the framework of a verbal stem."<sup>1</sup> Consequently, having the basic stem as the underlying lexical representation implies that the grammatical category of Aspect is an inherent feature of every verb stem in the lexicon. Although this is implicit, a descriptively adequate grammar of Russian should make these relationships between the root morpheme, the verb suffix, and aspect explicit in formal terms. In other words, the underlying representation of every verb in the lexicon should be the verbal root alone, and the verb suffix, which in combination with the root morpheme specifies aspect, should be introduced by separate syntactic rules.

In these terms then, every lexical item should ultimately have a single underlying base form in the lexicon; e.g., stup- 'step', for stupá' (Impf.), and stup'ít' (Pf.). To this root grammatical formative suffixes are added depending on the derivation desired. More specifically, the suffixes should be predictable on the basis of the phonological shape of the root, the syntactic information of the base component, and

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<sup>1</sup> Translation from the Russian text is mine.



the semantic information of the lexicon (i.e. semantic information is necessary in the case of co-occurrence restrictions between the root and the type of verb suffixes it can take, cf. p. 8). The lexical rules would add the -aj- formative to the root stup- to give the Impf. basic stem stup+aj-, and -i- for the Pf. basic stem stup+i-. For verbs such as taskát', tašcít' 'carry, drag', and lomát', lom'ít' 'break', there would be additional and somewhat different information carried by the formant suffixes -aj- and -i- which would be added to the roots of task- and lom-. The suffix -aj-, which in combination with any root always implies 'imperfectiveness', nevertheless carries additional information when it is a paired correlate of some verb whose mode of action is more than simply a durative action expressed by a verb such as stupát' 'step', for example. For verbs such as taskát' and lomát', where the action expressed is not simply incomplete (imperfective), the -aj- suffix expresses the notion of iterativeness and non-determinateness as well. Similarly, the -i- formant suffix can be a marker of imperfectiveness as well as of perfectiveness (i.e. they are evidently different morphemes), since in the case of lom'ít' and tašcít' above, it carries, in addition, the notion of determinateness.

Secondly, there seems to be further justification for such a treatment on syntactic grounds if verbs derived from other categories, e.g., adjectives, nouns, interjections, onomatopoeic words, etc., are considered. Presumably, in the derivation of such a verb, a grammar of Russian might assign to the sentence moróz kr'epčájet a labelled bracketing of the following form:





(1)

$$\begin{array}{ccccccccccccccc} [ & [ & \text{mor}^{\acute{o}}\text{z} & ] & \phi & ] & & [ & & [ & [ & \text{kr}^{\acute{e}}\text{pk} & ] & \text{éj} & ] & \text{e} & ] & \text{t} & ] \\ \text{N} & \text{N} & \text{ROOT} & & \text{N} & & \text{N} & & \text{V} & & \text{PS} & & \text{Vs} & & \text{Adj} & & \text{ROOT} & & \text{Adj} & & \text{Vs} & \text{PS} & & \text{V} \end{array}$$

assuming that the lexical rules have operated on the surface structure, inserting the grammatical formatives, etc. Since there are derivational problems involved, the answers to which are presently unavailable, it is difficult to say if this bracketing is entirely syntactically justified, i.e. the smallest IC might be the basic stem itself, i.e.  $[\text{kr}^{\acute{e}}\text{pk} + \text{éj}]_{\text{VS}}$ . However, there seems to be independent phonological motivation for keeping the root and the verb suffix separate. As has been pointed out previously, stress in certain verbs (denominals and deadjectivals, etc.) does not correspond to the position in which it is found in the basic adjectival or nominal root. This suggests that the stress rules for derived verbs might operate in a series of steps. The first set of rules, which might be called Adjectival or Nominal stress rules, would first assign stress to the nominal or adjectival root within the smallest IC; e.g.,  $[\text{kr}^{\acute{e}}\text{pk}]_{\text{Adj}}$ , or  $[\text{mor}^{\acute{o}}\text{z}]_{\text{N}}$ , depending upon whether the roots themselves were accented or unaccented within their respective paradigms. Further, it can be shown that a stressed adjectival or nominal root sometimes loses its initial position of stress when the verb suffix is added; e.g.,  $[[\text{mor}^{\acute{o}}\text{z}]_{\text{N}} + \text{i}]_{\text{VS}}$ , but  $[[\text{kr}^{\acute{e}}\text{pk}]_{\text{Adj}} + \text{éj}]_{\text{VS}}$ . Before the main verbal stress rules could operate on these basic stems, a series of what might be called 'readjustment rules' would have to operate on the basic verbal stems to establish whether or not they are accented or unaccented in relation to the verbal paradigm. This seems like a necessary step in a more complete treatment of verbal stress. However, since rules for prediction of





stress in categories other than verbs are outside the scope of this thesis, as are the problems of derivation discussed above, the discussion will henceforth concern itself with only the input to the phonological component; the assumption being made that the readjustment rules (Chomsky & Halle, 1968: 10-11, 371) have given the lexical representations phonological representation, i.e. a form appropriate for the application of the phonological rules. Also, without further justification, it will be assumed that the input to the phonological component will be a labelled bracketing of formatives of the form given in (1) on page 12. The necessary derivational and stress rules operate in a transformational cycle on the smallest IC's and thence to the largest as proposed by Halle and Lightner in their treatment of Russian conjugation, (Halle, OPRS: 1963; Lightner, 1965a) and Chomsky & Halle (1968:26-27), where the assumption is made that every word has more than one transformational cycle in its derivation. The concepts introduced here and the proposed methodology for assigning stress to the finite verbal forms will be elaborated upon in the succeeding Chapters as the data is presented. Although this seems like the logical approach to the problem and one which we feel will capture the generalizations about stress behavior in the conjugational paradigms, its success will depend largely upon whether or not our rules can be incorporated into the existing phonological theories.



## CHAPTER III

## CLASSIFICATION OF VERBS INTO STRESS PATTERNS

3.0 In the following sections of this chapter, the three basic types of stress patterns will be examined and the pre-cyclical rules which assign the initial stress to the basic stems will be introduced. In terms of the framework proposed in the preceding chapter, the basic stems will be marked with diacritic features to enable the pre-cyclical rules to locate the initial stress. The basic stems with this initial stress will then be the input to the main stress rules of the phonological component. Before illustrating the above-mentioned stress patterns, the finite forms of the verbal systems to which these rules will apply must be mentioned.

It was noted on p. 10 that only one stem is basic to all verbal forms, finite and the infinitive. For purposes of derivation, within the framework developed by Halle and Lightner, it was found necessary to extend the basic stem to include the Present Tense vowel in order to arrive at the proper derivations of the Present Tense forms. Morris Halle (1961:150) terms this type of stem the Extended Verbal Stem, on the basis of which the present and imperative forms, the present gerundive forms, and the present active and passive participial forms (inflected) are constructed. Schematically, this Extended Verbal Stem may be represented as (((ROOT)+VERB SUFFIX)+Present). In order to limit the investigation to some natural subclass of the finite present forms, the inflected participial forms will not be considered; hence the rules will be formulated to deal with only the present tense forms, the imperative, and the present gerundive forms



ending in the vowel -a-.

3.1 The Russian conjugation exhibits three basic types of stress patterns depending upon which morpheme the stress falls within the paradigm: constant root or stem stress throughout the paradigm; constant desinential stress throughout the paradigm; and recessive stress (i.e. in the present tense, stress on the desinence of the 1 sg. but on the root in all of the other forms of the present; in the gender forms, stress on the desinence of the feminine past form, but on the stem in the others). For convenience, we will use the traditional classification whereby constant root or stem stress is referred to as stress pattern A, recessive as B, and constant desinential stress as C.

3.11 To illustrate the stress patterns discussed above, possible finite and infinitive verb forms will be listed with the stress marked on the morpheme on which it is found.

The examples below will serve to illustrate the three stress patterns. The first we shall call Stress Pattern A:

1. plák+a+t'	' cry '	2. čít+á+t'	' read '	- inf.
pláč+u		čit+áj+u		- 1 sg.
pláč+e+t		čit+áj+e+t		- 3 sg.
pláč+u+t		čit+áj+u+t		- 3 pl.
plák+a+l		čit+á+l		- m. pt.
plák+a+l+a		čit+á+l+a		- f. pt.
plák+a+l'+i		čit+á+l'+i		- pl. pt.
pláč'		čit+áj		- sg. imp.
pláč+a		čit+áj+a		- g. pr. a.
pláč+ušč+i j		čit+áj+ušč+i j		- p. pr. a.
(za)plák+a+v		(pro)čit+á+v		m. sg. nom. -g. pt. a.





plák+a+vš+ij	čit+á+vš+ij	- p. pt. a. m. sg. nom.
(za)plák+a+nn+ij	(pro)čit+a+nn+ij <sup>1</sup>	- p. pt. p. m. sg. nom.
	čit+áj+em+ij	- p. pr. p. m. sg. nom.

It will be noted that the stress in both examples remains constantly on the same morpheme throughout the entire paradigm (see fn. 1 below). In example 1, the stress remains on the root throughout and in example 2, on the Verb Suffix (henceforth referred to as Stem Formant Suffix (SFS)) vowel. However, in accordance with Jakobson's postulation of the basic stem, despite the fact that the basic stem is shortened by one syllable in Example 1, these two examples can be considered identical with regard to stress pattern since the stress never moves off the basic stem; i.e. pláka- ~ plák-, čitá- ~ čitáj-. Actually, the basic stem for verbs which retain the SFS vowel in the present tense (e.g., čitát') always ends in /j/, i.e. čitáj-. The /j/ will be truncated before consonantal desinences by a special rule.

#### Stress Pattern B:

1. plat'+í+t'	'pay'	2. skak+á+t'	'jump'	- inf.
plač+ú		skač+ú		- 1 sg.
plát'+i+t		skáč+e+t		- 3 sg.
plát'+a+t		skáč+u+t		- 3 pl.
plat'+í+l		skak+á+l		- m. pt.
plat'+í+l+a		skak+á+l+a		- f. pt.
plat'+í+l'+i		skak+á+l'+i		- pl. pt.
plat'+í		skač+í		- sg. imp.

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<sup>1</sup>Even though the forms based on the traditional past-infinitive stem will not be considered, there seems to be a general rule that indicates a retraction of stress onto the root in the p.pt.p. if stress falls on the Verb Suff. in the inf.





plat'+a	skac'+a	- g. pr. a.
plat'+i+v	skak+a+v	- g. pt. a.
plat'+ašč+ij	skác+ušč+ij	p-p. pr. a. m. sg. nom.
plat'+i+vš+ij	skak+a+vš+ij	-p. pt. a. m. sg. nom.
plat'+i+m+ij		-p. pr. p. m. sg. nom.
(za)pláč+e+nn+ij		-p. pt. p. m. sg. nom.

Here the basic difference from pattern A is that the stress is on the desinence in the 1 sg., and one syllable closer to the beginning of the word in the other present forms; i.e. it is retracted onto the root (We are not considering the stress patterns in the participial forms since they present a special problem). This type of recessive stress is not productive in the Russian language but it encompasses some 150 verbs.

#### Stress Pattern C:

1. kr'ič'+a+t' 'shout'	2. šum'+é+t' 'be noisy'	- inf.
kr'ič'+ú	šum'l'+ú	- 1. sg.
kr'ič'+i+t	šum'+i+t	- 3 sg.
kr'ič'+a+t	šum'+a+t	- 3 pl.
kr'ič'+a+l	šum'+é+l	- m. pt.
kr'ič'+a+l+a	šum'+é+l+a	- f. pt.
kr'ič'+a+l'+i	šum'+é+l'+i	- pl. pt.
kr'ič'+i	šum'+i	- sg. imp.
kr'ič'+a	šum'+a	- g. pr. a.
kr'ic'+ašč+ij	šum'+ašč+ij	- p. pr. a. m. sg. nom.



(za)kr'ič'á+v	(za)šum'é+v	- g. pt. a.
kr'ič'ávš+ij	šum'évš+ij	- p. pt. a. m. sg. nom.

In the above forms it will be noted that in contrast to stress patterns A and B, the stress remains constantly on the desinence throughout.

From an examination of the three types of stress patterns in the finite forms it can be seen that if the stress falls on the root in the infinitive, the stress will remain on the root in all of the finite forms. On the other hand, if the stress falls on the SFS vowel in the infinitive, and this vowel is dropped in the present tense forms, stress patterns B and C are both possible (i.e. recessive and desinent-ial stresses). Here is where the difficulty arises in using Jakobson's basic stem for the purposes of stress prediction.

If we take the Jakobsonian basic stems for all of the above verbs used in the examples, we will see that all of the basic stems are stressed; e.g., pláka-, čitáj-, plat'í-, skaká-, kr'ičá-, and šumé-. In the first two examples, the stress remains on the basic stem or some morpheme of the basic stem throughout the entire conjugational paradigm. In the last four examples, especially the last two, kr'ičá- and šumé-, the basic stem is stressed only for those finite forms in which the Jakobsonian basic stem remains intact; i.e. where the SFS vowel is not truncated, as in the past tense, for example. For those forms where the basic stem becomes only the bare root because of the loss of the SFS vowel, as in the present tense, the basic stem, as such, is unstressed. This brings us back to the traditional notion of



a dual stem with respect to stress, i.e. kr'ičá- ~ kr'ič-, and šumě- ~ šum-. Since there are monosyllabic verbs of the type n'est'í 'carry', v'ezt'í 'transport', whose basic stems are n'es- and v'ez-, it would be entirely justifiable for purposes of discussion to speak of a basic stem for stress prediction as distinct from the one used for derivational purposes; i.e. (Basic Stem)<sub>S</sub> and (Basic Stem)<sub>D</sub>, respectively, since the above monosyllabics have unstressed stems and will have to be marked as such in the lexicon. Theoretically, this discrepancy should not exist between the two types of stems discussed above if the concept of the basic stem is taken literally (cf. the discussion of the lexical representations of the verbs on p. 10). We can avoid this difficulty by applying the diacritic feature [+Accented] only to the roots of those basic stems which have constant stress on some vowel of the root; e.g., [[plák]a]. The remainder, which have stress on the SFS vowel, regardless of whether the SFS is retained or not, and which yield constant stem stress in the present if the SFS is retained, we will initially class as [-Accented] according to the convention set out above; e.g., [[skak]+á].  
[-Acc]

The pre-cyclical rules will use this information, along with other morphological features specified in the lexicon, to locate the initial stress position within the basic stem.

3.12 In order that the root, in relation to stress in the verbal paradigms, be marked [ $\pm$  Accented], all available relevant information about the stem should first be considered: its syntactic and semantic properties, its affiliation with certain semantic subclasses of various syntactic classes of verbs, etc. With regard to roots other than purely verbal roots, we will assume that certain rules (cf. p. 13) have adjusted the stress position with respect to their





behaviour in the verbal paradigm and will henceforth treat them as purely verbal roots. They will be marked as either [ $\pm$  Accented] depending upon their behavior in the verbal paradigm alone, disregarding their behavior in their respective paradigms. After the application of the lexical rules, these roots will have the form  $((\text{ROOT}) + \text{SFS})_{\text{VS}}$  which immediately assigns them to a certain class of verbs with specific stress properties.

It can be shown that in certain cases, the specification of several semantic and syntactic features in the lexicon facilitates the marking of roots as [ $\pm$ Accented]. These features determine not only whether the root is accented or not, but also the entire stress pattern in certain classes of verbs. Although such information is at present not available for all classes of verbs, the little information which is available suggests that there may be a strong relationship between verb class and stress.

There are certain inchoative verbs ( "inchoativeness", "stative-ness", which are modes of action, are strictly separated from perfectiveness or imperfectiveness, or Aspect, and are considered to be inherent features of the verb root itself), which, as opposed to the inceptive verbs beginning with prefixes such as za-, are structurally identical to semelfactives ending in the -nut' suffix. These are of the type, sóxnut' ' grow dry, desiccated ', k'ísnut' ' turn sour ', púxnut' ' swell up ', etc., where root stress seems to be characteristic of all these verbs. Consequently, inchoativeness is one feature contained in the lexicon which could aid the stress rules in the prediction of the initial stress in the basic stem. These verbs are all imperfective. Their perfective correlates are formed by prefixation and





retain stress on the same vowel, and the secondary derived imperfectives (DI's) are all end-stressed ( e.g., vysyxát', zak'isát', opuxát', etc.) and have a predictable -aj- formative suffix in the secondary DI's.

These inchoatives would have to be differentiated from others of the type bl'edn'ét' ' become green ', which belong to another group having the -ej- formative suffix. The -nut' inchoatives could have features specified in the lexicon in the form:

+V
-N
⊗Pf.
+Inch.
+Group I
.....

these features determining the formative suffix -nu-, the diacritic feature of [+Accented] being predicted in by a redundancy rule, and subsequently, from the information given by these features, the stress pattern in the finite forms.

Another group of verbs, which will be referred to as onomatopoeic for lack of better terminology, are also entirely predictable in terms of stress.<sup>2</sup> These are of the type, aúkat' " exclaim 'aú' " , gárvat' ' shout, bark at ', tráxat' ' make forceful, harsh or sharp sounds ', etc. The perfectives of these verbs, which can be formed by prefixation, or the semelfactives, ending in the semelfactive formative suffix -nu-, retain stress on the same vowel. If the roots are other than monosyllabic, the stress is on the syllable immediately preceding the -(k)a- formative suffix; e.g., x'ix'í -ka-t' ' to laugh quietly '. The derivation of these onomatopoeic verbs will be discussed more fully in a later section.

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More complete lists of the -nut' inchoative ( which is small and not very productive in the language) and the onomatopoeic verbs will be given in Appendix I.



Information of this type, then, will be used whenever it is available in order to show any correlations between verb type and stress pattern. Another factor, that of the quality of the SFS vowel, which indicates the conjugational class to which a verb belongs, is also important in determining the stress patterns of the verbs. Together, these factors will constitute the basis on which roots will be marked either [+Accented] or [-Accented]. For the sake of convenience the verbs will be examined according to the quality of the SFS vowel and the subclassification of basic stems, which will ultimately be related to subclasses of other groups with different SFS vowels that show parallel stress patterns.

3.2 The first group which will be examined are the disyllabic and polysyllabic verbs which have their infinitives ending in -at'. This type exhibits all three stress patterns, e.g., plákat' 'weep' (A); tájat' 'melt' (A); p'isát' 'write' (B); skakát' 'jump' (B); kr'ičát' 'shout' (C); and stoját' 'stand' (C). In order to determine the conjugational class and the stress patterns of this group, it is first necessary to examine the structural features of the infinitives and to posit the basic stems for these verbs together with the stress location; for example, plák+a- for plákat', táj+a- for tájat', p'is+á- for p'isát', skak+á- for skakát', kr'ič+á- for kr'ičát', and stoj+á- for stoját'.

According to the criterion we have set up for marking roots initially as either [+Accented] or [-Accented], the first two verbs, plákat' and tájat' will have the diacritic feature [+Accented] in the lexicon, while the remainder will have the feature [-Accented]. The conjugational classes to which these verbs belong are predictable on



the basis of stem-final features. There are two such classes; one class taking the Present Tense e, the other i. This can be expressed by the following rule:

(1)

$$\text{PRES} \dashrightarrow \left\{ \begin{array}{l} \frac{i}{e} / \left\{ \begin{array}{l} \frac{i}{e} \\ \frac{e}{e} \end{array} \right\} + \text{---} \\ \frac{e}{e} / \text{elsewhere} \end{array} \right\}$$

Of the above verbs only plákat' and tájat' belong to the constantly root or stem stress or I-A stress (i.e. I-conj., with e Pres., constant root or stem stress). These can be classed into 3 basic categories according to stem-final features.

	<u>Infinitive</u>	<u>3 sg. Pres.</u>	<u>Basic Stem</u>
1a.	kl'íkat' 'call'	kl'íč+e+t	<u>kl'ík+a</u>
	plákat' 'weep'	pláč+e+t	<u>plak+a</u>
b.	čújat' 'scent'	čúj+e+t	<u>čuj+a</u>
	tájat' 'melt'	táj+e+t	<u>taj+a</u>
2a.	stúkat' 'knock'	stúk+aj+e+t	<u>stuk+aj</u>
	pádat' 'fall'	pád+aj+e+t	<u>pád+aj</u>
b.	kašl'at' 'cough'	kašl'+aj+e+t	<u>kašl'+aj</u>
c.	v'ěsat' 'hang'	v'ěš+aj+e+t	<u>v'ěš+aj</u>
3a.	čitát' 'read'	čit+áj+e+t	<u>čit+aj</u>
	lomát' 'break'	lom+áj+e+t	<u>lom+aj</u>
b.	t'er'át' 'lose'	t'er'+áj+e+t	<u>t'er'+aj</u>
	vkor'en'át' 'take root'	vkor'en'+áj+e+t	<u>vkor'en'+aj</u>
c.	vl'iját' 'influence'	vl'ij+áj+e+t	<u>vl'ij+aj</u>
	s'iját' 'shine'	s'ij+áj+e+t	<u>s'ij+aj</u>
	m'ešát' 'hinder'	m'eš+áj+e+t	<u>m'eš+aj</u>





In the verbs of the type p'isát' 'write', skakát' 'jump', kr'ičát' 'shout', the stress is always located on the SFS vowel in the basic stem. The SFS vowel is always dropped in all of the present tense forms as in the case of the I-A type of verbs, but the main difference between the two groups is that the latter have open basic stems in contradistinction to the I-A types which are closed e.g., p'ista, skak+a, kr'ič+a, vs. čit+aj, lom+aj, l'et+aj, etc.<sup>3</sup> By implication then, they can either belong to stress patterns B or C. If we examine

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It can readily be seen from a verb such as kl'íkat', as opposed to one such as stúkat', with basic stems kl'ík+a and stuk+aj, respectively, that some feature other than structure is necessary in order to predict the basic stem from the root. Both verbs are imperfective, both have stress on the root in the basic stem and all other finite forms, e.g., kl'iču I sg., kl'ikal m. pt., etc. Yet in the former example, the SFS vowel is dropped in the present whereas it is retained in the latter. Again in the forms of the type skakát' and taskát', where the SFS vowel is stressed, the same phenomenon occurs. Both are imperfective, both have stress on the SFS vowel in the basic stem, but the verb skakát' drops the SFS vowel in the pres., e.g., skačú, skáces, and the verb taskát' retains it; e.g., taskáju, taskáješ, etc. Also, skakát' belongs to the recessive type of stress. There seems to be no reasonable explanation at present which would account for such differences in behavior between seemingly identical verbs. One thing is common among these verbs (although there may be exceptions to this rule) - the fact that if a verb such as kl'íkat' does not retain the SFS vowel in the present, it is not very likely that it will have an aspectual correlate, or some other correlate in another verbal class opposed to it in mode of action. Thus, for example, the I conj. durative verb stúkat', with basic stem stuk+aj, has a corresponding II conj. stative correlate stučát', with basic stem stuk+e (this underlying form will be discussed in the following pages). The non-determinate verb taskát', (I conj.), discussed above has a determinate correlate taščít', in the II conj. (with basic stems task+aj and task+i, respectively). Verbs of the type plákat' and skákat', both of which drop the SFS in the present tense, do not show this paired correlation. However, information of this type, which would undoubtedly help explain the behavior of these verbs, is at present very sketchy and until more detailed information is available, any correlations such as the above can only be speculative.





a few forms of the present tense of each verb; e.g., p'íš+ú, p'íš+e+š, p'íš+e+t; skáč+ú, skáč+e+š, skáč+e+t; and kr'ič+ú, kr'ič+í+š, kr'ič+í+t, it will be noted that the first two belong to I-B (I conj., Recessive stress), while the latter to II-C (i.e. II conj. with i Pres., end stress). In fact there are certain features of the recessive type verbs of the -at' class which differentiate them from those of the I-A and II-C types. Firstly, these open -at' stems with stressed SFS vowel have a stem-final consonant other than a palatal (č, š, ž) or j preceding the SFS vowel -a-; e.g., glodát' 'gnaw', v'azát' 'tie', p'isát' 'write', etc. Secondly, the SFS vowel is the simple formant suffix -a- which must be differentiated from the complex formant suffixes such as -ov+a-, -n'ič+a-, etc. There are some 45 of these recessive type verbs with the -a- SFS which will be given in Appendix I.

In the discussion of the above -at' class of verbs, it was noted that certain verbs such as plákat' and skakat' belonged to the I conjugation, while certain others of the type kr'ičát' and stučát' (note the same verb stúkat' ~ stuk+aj of type I-A), belonging structurally to the same class of infinitives, are of the II conjugational type; i.e. kr'ič+ú, kr'ič+í+š, stuč+ú, stuč+í+š, etc. This phenomenon can be explained if the underlying basic stems are re-examined.

First of all, verbs of the type kr'ičát' and stučát' differ from verbs of the form r'ešát' 'stir', pom'ečát' 'mark', in that often the latter have aspectual pairs in -it' (with basic stems r'eš+aj, pom'eč+aj, and r'eš+í, pom'et+í, respectively) and the former do not, even though both forms of verbs have their roots ending in a



palatal consonant, i.e. š or č. Secondly, the two types of verbs differ semantically as to the mode of action implied; kr'ičát' and stučát' being verbs of state (statives) while m'ešát' and pom'ečát' are duratives, i.e. they describe a continuing action while the former describe a state of an action rather than the action itself. In connection with the above statement, it may be noted that statives never form aspectual pairs (i.e. paired with regard to the opposition Perfective vs Imperfective). They can form semelfactives or inceptives, e.g. kr'íknuť 'give a shout' or zakr'ičát' 'begin to shout', which must be differentiated from the true concept of 'Perfectivity', even though the semelfactives and inceptives delineate the action in time as do perfectives. Thirdly, the Russian verbal system includes a distinct class of stative verbs with the SFS e which all belong to the II conjugation. All of the above suggests that perhaps the two types of verbs discussed above may have a different derivation in view of their distinct behavior.

If the roots from which the basic stems of the verbs kr'ičát' and stučát' are formed are taken as kr'ik- and stuk- (since there are the nominal forms kr'ik 'a cry' and stuk 'a knock'), there is no possible way of deriving kr'ičát' and stučát' from the underlying constituent structures ((kr'ik+a)+t'), ((stuk+a)+t'), since the vowel /a/ has no palatalizing qualities which would change k to č. This palatalization can be achieved, however, if we treat these verbs as belonging to the same class as the other statives with the SFS vowel in e. In fact, Morris Halle (OPRS; 126) noted that among the II conjugation verbs (with the exception of k'išét' 'swarm'), there



are no verbs whose stems end in a palatal consonant or /j/ followed by an e SFS vowel. Yet the verbs kr'ičát' and stučát' act in the same way as do verbs of the type gud'ět' 'drone, buzz'; i.e. guž+ú, gud'+í+š, gud'+í+t, etc. He then posits an abstract form (kr'ik+e)+t'), which would yield kr'ičēt' for the infinitive, the front vowel e palatalizing k to č, which is consistent with phonological processes of Russian. He then formulates a rule which states that the single morphophoneme /e/ (SFS vowel in the terminology of this thesis) changes to /a/ after palatals or /j/. The restriction that the rule apply to the monophonemic morpheme /e/ was necessary since there are verbs of the type s'v'ežět' 'freshen (up)', and xorošet' 'grow prettier' which, if the rule were allowed to apply, would generate the incorrect forms \*s'v'ežát' and \*xorošát'. Since the morphophoneme involved in the latter verbs is not /e/ but the biphonemic /ej/, e.g., s'v'ež+ej, and xoroš+ej, the analysis of these forms would not meet the structural description of the rule, precluding its application.<sup>4</sup> Following the application of this rule, the form kr'ičēt' would be rewritten as the desired form kr'ičát'. By postulating the underlying SFS vowels of these stative verbs of the type kr'ičát', etc., as e, we can achieve several desirable results; the palatalization of k to č is explained in a natural way, and

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<sup>4</sup>It may be noted that Morris Halle is speaking of two different verb formant suffixes; e which is [+Stative], and ej which is [+Inchoative], and that only the [+Stative] e undergoes the change to a. Although this phonological change is quite general in the verbal system, the application of this rule does not always give consistent results. For example, the inchoative verb kr'epčát' 'grow stronger', has a basic stem kr'epč+aj, which evidently is derived from the underlying constituent structure ((kr'epk+ej). This is consistent with the fact that all inchoative verbs of this class have an underlying -ej- as a SFS. Note that Morris Halle's rule will not give the proper derivation kr'epčát' but the incorrect form \*kr'epčēt' since the formant suffix is biphonemic. This list can be expanded to include Inchoatives of the type dorožát' 'rise in cost', dolžát' 'run into debt', presumably derived from ((dorog+ej)+t'), ((dolg+ej)+t') etc.





all of the stative verbs have now a single underlying SFS vowel. All of these verbs will then have their stem-final consonants ending in the velars k, g, x or j plus the SFS vowel e, rather than č, š, ž, or j plus a. E.g., ((tr'esk+e)+t') for tr'eščát' 'crackle'; ((v'izg+e)+t') for v'izžát' 'squeal, screech'; ((p'isk+e)+t') for p'iščát' 'squeak'; ((stuk+e)+t') for stučát' 'knock'; and ((stoj+e)+t') for stoját' 'stand'.<sup>5</sup> This underlying representation does, in fact reflect a historical fact, where all stative verbs had an underlying tense e for the SFS vowel. We will also adopt this tense vowel e as the underlying SFS vowel for the stative verbs, since it must be differentiated from the lax vowel e which changes to o in the environment C'\_\_\_\_\_C. (e.g., n'ós m. pt. from the verb n'est'í 'carry', but gr'el m. pt. from the verb gr'ēt' 'warm, heat').

3. 21 From the examination of the three sub-groups of -at' verbs dealt with so far, four distinct groups of basic stems emerge:

- (1) Stressed open stems ending in -a- giving I-A stress; e.g., plak+a
- (2) Stressed closed stems, giving I-A stress, e.g.; cit+áj
- (3) Stressed open stems ending in -a-, giving I-B stress; e.g., skak+á
- (4) Stressed open stems ending in e giving II-C stress; e.g., kr'ik+e

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<sup>5</sup>Verbs of the type r'eščát', pom'ečát', etc., discussed on p. 24 will have a different derivation from these statives. These are considered to be derived from the perfective forms in the following manner:  
 pf. pom'et'ít' 'mark' < pom'et+i+t' < from pom'éta 'a mark'  
 Impf. pom'ečát' < pom'et+i+á+t'  
 In the formation of the imperfectives, the indication seems to be that the -i-, which is considered to be a gradation of /j/, palatalizes the velars and dental stops into stridents (a process referred to as substitutive softening).



Within the framework proposed here, the roots of group (1) above will be marked with a diacritic feature of [+Accented], while groups (2), (3), and (4) will contain the feature of [-Accented] in the lexicon. We can now introduce Pre-cyclical Stress Rules (1) and (2) which will assign the initial stress position to the roots of the stems having the features [+Accented] and [-Accented].

(1)

$$V \longrightarrow [+stress] \ / \ \left[ \begin{array}{c} V \\ -Acc \end{array} \right] C_o + C_o \text{ ---}$$

(2)

$$V \longrightarrow [+stress] \ / \ \left[ \begin{array}{c} \text{---} \\ +Acc \end{array} \right] C_o^+$$

Thus, for example, Stress Rule (1), applied to [-Accented] roots will assign stress to the syllable immediately following the root morpheme:

$$\begin{array}{l} (((((kr'ik)+\overline{e})+i)+u) \\ (((((kr'ik)+\overline{e}')+i)+u) \\ (((krik+\overline{e}')+i)+u) \end{array}$$

$$\begin{array}{l} (((((\check{c}it)+aj)+e)+u) \\ (((((\check{c}it)+\acute{a}j)+e)+u) \quad PC(1) \\ (((\check{c}it+\acute{a}j)+e)+u) \end{array}$$

We will adopt the convention that: when stress is assigned to a certain position then all other vowels in the string under consideration at that point will automatically receive minus stress. This convention is taken from Chomsky & Halle (1968:17) and adapted to reflect a situation in Russian where only a single vowel in any morpheme can be stressed. The final string of the above verbs will then have the following form after application of Pre-cyclical (PC) Stress Rule (1):

$$(((krik+\overline{e}')+i)+u)$$

$$(((cit+\acute{a}j)+e)+u)$$

Applying PC Stress Rule (2) to [+Accented] roots, the following derivations are obtained:



((plak)+a)+e)+u)	(((cu <sup>́</sup> j)+a)+e)+u)
(((plá <sup>́</sup> k)+a)+e)+u)	(((cu <sup>́</sup> j)+a)+e)+u) PC(2)
((plá <sup>́</sup> k+a)+e)+u)	(((cu <sup>́</sup> j+a)+e)+u)
(((plá <sup>́</sup> k+a)+e)+u)	(((cu <sup>́</sup> j+a)+e)+u)

3. 22 There are exceptions to the general rules of stress behavior given for the above four groups of verbs; in particular, with groups (3) and (4), where the deviations from the general rule predominate in group (3). The correct position of stress is taken as that given in R.I. Avanesov and S.I. Ozhegov (Akad'emiia Nauk, 1960).

Within group (3) above (recessive type verbs), the verbs alkát' 'crave, hunger for', kol'ebát' 'vacillate', kolyxát' 'sway', stradát' 'suffer from', sosát' 'suck', all show certain deviations. The verbs alkát' and kolebát' have stress pattern I-A in the present tense rather than I-B; i.e. álč+u rather than \*alč+ú, kol'éb+u, rather than \*kol'eb+ú, which was shown to be characteristic for this group. For the verb stradát', Avanesov gives the forms strad+áj+u as the proper forms rather than strážd+u, strážd'+e+š, etc., which are considered to be obsolete, although both forms are acceptable. For the verb kolyxát', both Avanesov and Daum (Daum & Schenk, 1963) give the forms kolyš+u ~ kolyx+áj+e+s, kolyš+e+š ~ kolyx+áj+e+š, but the forms kolyx+áj+u, kolyx+áj+e+š, etc., are given by Avanesov as being colloquial. This is exactly the reverse of what Avanesov gives as the prescribed literary form for stradát'. Here, the forms strad+áj+u, strad+áj+e+š, etc., reflect a levelling to the more productive forms of imperfective verbs, while the forms strážd+u, strážd'+e+š, are considered to be archaic or obsolete. On the other hand, the forms kolyx+áj+u, kolyx+áj+e+š, which are analagous to the more productive forms having the formant -áj-, are given as col-





loquial. It is quite evident from the above examples that a levelling process is at work in the language but is being suppressed by a prescriptivist attitude towards what is acceptable. Consequently, there is a mixture of acceptable and unacceptable paradigmatic stress forms from the point of view of the literary standard.

From the verb sosát', there is even a greater deviation from the general rule. This verb exhibits I-C stress, i.e. I conjugation, constant end stress; e.g., sos+ú, sos'+ó+š, etc.<sup>6</sup>

Of the fourth group, i.e. the II-C stress, there are only two exceptions; d'eržát' 'hold' and slýšat' 'hear'. The verb d'eržát' has II-B stress (recessive stress, II conj.) rather than II-C stress; i.e. d'erž+ú, d'érž+i+š, d'érž+i+t. The verb slýšat' is root stressed and is the only verb of this group that does not have stress on the SFS e, although it still belongs to the second conjugation.

It might be noted that the knowledge of the basic stems of such verbs as stoját' 'stand', boját's'a 'fear', as opposed to vl'iját' 'shine', is obligatory before the stress patterns can be predicted, since the basic stems of the former are stoj+ē and boj+ē, but vl'ij+aj, (also s'ij+aj for the verb s'iját' 'shine') for the latter. Unless the underlying SFS vowel is known, the stress pattern and the conjugational class cannot be predicted by merely examining the infinitives in their orthographic forms; i.e. stoját' and vl'iját'. However, by

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<sup>6</sup>The behavior of this verb is not so strange if it is compared to some verbs which were identical historically. These had a back semi-vowel in the root, e.g., ṣsat'i, rather than the full grade vowel o. If we compare it to the verb zvat' 'call', which had the same semi-vowel in the root, (ẓvat'i), and observe the conjugations; e.g., sos+ú, sos'+ó+š, ..., and zov+ú, zov'+ó+š, ..., we see that these verbs behave identically. The difference is that sosát' developed a full grade vowel. Presumably, this occurred because of the double s which resulted from the loss of the semi-vowel.



knowing that stoját' and boját's'a are purely stative verbs, with the underlying ē SFS vowel, the above problems disappear. Another feature which gives an indication as to the stress patterns and conjugational class is that these are the only two verbs of this class which have the vowel o in the root. Two other verbs sm'eját's'a 'laugh' and bl'eját' (bl'ejat) 'bleat', belong to stress pattern I-C; i.e. sm'ej+ú+s', sm'ej+ó+š+s'a, bl'ej+ú, bl'ej+ó+š, etc. Again these can be differentiated from the rest since these are the only two verbs which have the root vowel e.

The marking of the basic stems for the verbs which were shown to be deviations from the general rules presents a problem. With the exception of the verb slyšat', which will be marked [+Accented], all of the verbs noted as exceptions will initially be marked [-Accented] in the lexicon, although we shall return to these exceptions for a more detailed discussion in a later section of this chapter. It will be shown that these verbs cannot be fitted into our classification of the stems satisfactorily and that some ad hoc solution for stress assignment in these verbs may be necessary. For those in which two forms of the basic stem are possible, such information will have to be carried in the lexicon.

3. 23 Another group of -at' verbs, briefly referred to earlier, are those which we had labelled onomatopoeic and are formed from interjections, pronouns, particles, and certain onomatopoeic words. The overwhelming majority of these verbs exhibit stress on the last syllable of the root and consequently will be marked with the feature [+Accented] in the lexicon. The present tense forms have their stems ending in



-j- ( i.e. the stems are closed) and their corresponding semelfactives ending in -nut' retain the same stress location; e.g., x'ix'íkát' ' laugh quietly ' x'ix'ík+aj+u, x'ix'ík+aj+e+š ...; x'ix'ík+n+u, x'ix'ík+n+e+š ..., etc. There are only a few examples of deviations from this general rule, where the stress is on the SFS vowel.

gromyxát' ' rumble, lumber ' (I-A stress)

pl'eskát' ' splash, lap ' (I-B stress)

rykát' ' roar ( as a lion ) ' (I-A)

gogotát' 'crackle, roar with laughter ' (I-B)

groxotát' ' crash, peel, roll ' (I-B)

klokotát' ' bubble, boil noisily ' (I-B)

l'ep'etát' ' babble, prattle, (also, light rustling of leaves) ' (I-B)

lopotát' ' mutter (rustle, flutter quietly )' (I-B)

poloskát' ' rinse, gargle (also, flap, flutter in a breeze, as sails, flag)' (I-B)

rokotát' ' roar, murmur, rumble ' (I-B)

str'ekotát' ' chirr, crackle ' (I-B)

xoxotát' ' laugh loud boisterously ' (I-B)

šeptát' ' whisper ( produce light rustling sounds) ' (I-B)

ščekotát' ' relates to singing of some birds, e.g., magpie, etc.) (I-B)

Of the above verbs, only two verbs, gromyxát' and rykát' (basic stems gromyx+aj and ryk+aj, respectively), do not have recessive stress. It is not quite clear why the above verbs differ from the majority of onomatopoeic verbs which are root stressed. In any event, these will have the feature [-Accented] in the lexicon.

It may be noted that several of these verbs have statives which express a state of an action, e.g.,:





<u>Imperfective</u>	<u>Semelfactive</u>	<u>Stative</u>	
<u>rykát'</u>	<u>ryknút'</u>	<u>ryčát'</u>	((ryk+ē)+t')
<u>stúkat'</u>	<u>stúknut'</u>	<u>stučát'</u>	((stuk+ē)+t')
<u>fýrkat'</u>	<u>fýrknut'</u>	<u>fyrčát'</u>	((fyrk+ē)+t')
<u>búrkat'</u>	<u>búrknut'</u>	<u>burčát'</u>	((burk+ē)+t')
<u>tréskat'</u>	<u>trésnut'</u>	<u>treščát'</u>	((tr'esk+ē)+t')
<u>br'ákat'</u>	<u>br'áknut'</u>	<u>br'enčát'</u>	((br'eNk+ē)+t'), <sup>7</sup> i.e. <u>br'eNknut'</u> , etc. i.e. <u>z'v'eNkat'</u> , <u>z'v'eNknut'</u>
<u>zv'ákat'</u>	<u>zv'áknut'</u>	<u>z'v'en'ét'</u>	
<u>xrústat'</u>	<u>xrústnut'</u>	<u>xrust'ét'</u>	

Although this thesis is not concerned with the semantic content of verbs, it might be interesting to investigate the difference between the above recessive verbs of the type ščeb'etát' 'chirp, chatter', and statives of the type tr'eščát' 'crackle'.

In many cases onomatopoeia has become a secondary feature with respect to the semantic content of the verb; e.g., poloskát' 'rinse', šeptát' 'whisper', xapát' 'grab, snatch' (xap! - an expression used to denote quickly grabbing or snatching something), pl'úxnut' 'to fall noisily, usually into something wet', and a few others. These secondary meanings denoting onomatopoeia will be noted in connection with these verbs in the appendix. It may also be noted that the thirteen SFS stressed onomatopoeic verbs listed on pp. 30-31 comprise almost

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<sup>7</sup> Cf. L. Sadnik and R. Aitzetmüller, Handwörterbuch zu den altkirchen-slawischen Texten, Slavic Printings and Reprintings, Ed. Cornelius Van Schoonveldt, Leiden University VI, Mouton & Co. 1955, 'S-Gravenhage; for OCS brenčanije, p. 14, and zvesti (-zvego), p. 168.



one quarter of the entire group of recessive verbs in -at' discussed in Sec. 3.21.

3.24 Another group of -at' verbs which is almost entirely predictable with regard to stress position consists of verbs formed from nouns and adjectives ( sometimes adverbs ) and ending in -n'icat' ( -icat' for verbs which are formed from adjectives having the -n- adjectival suffix). These verbs mean indulgence or participation in the state, behavior, conduct, activity, trade, etc., denoted by the corresponding noun or adjective from which they are derived. Of 218 verbs taken from a reverse dictionary ( Bielfeldt, 1958), only fourteen do not have the stress on the syllable preceding the -n'icat' suffix. The roots of these verbs are disyllabic and have the stress on the first syllable; e.g., vz'átočn'ičat' ' be in the habit of taking bribes ', káv'ernzn'ičat' ' indulge in chicanery, trickery ', etc. Our pre-cyclical stress rules, consequently, will not be able to account for this type of stress, since Pre-cyclical Stress Rule (2) will put the stress on the last syllable of these roots. This could be remedied by another precyclical stress rule or a re-classification of our basic stems.

3.241 We had previously sub-categorized the verbs into [+Accented] and [-Accented]. Since we have verbs with recessive stress also, it would seem more realistic to sub-categorize the verb stems in the following manner;



giving four possible root types; [+Accented, +Recessive], [+Accented, -Recessive], [-Accented, -Recessive], and [-Accented, +Recessive].

Viewing the verbs discussed so far, we see that they can easily



be fitted into the above categories, e.g.:

vz'átok+inik+ej+t'

$\begin{bmatrix} +\text{Acc} \\ +\text{Rec} \end{bmatrix}$

moróz+i+t'

$\begin{bmatrix} +\text{Acc} \\ -\text{Rec} \end{bmatrix}$

krik+<sup>́</sup>e+t'

$\begin{bmatrix} -\text{Acc} \\ -\text{Rec} \end{bmatrix}$

skak+<sup>́</sup>a+t

$\begin{bmatrix} -\text{Acc} \\ +\text{Rec} \end{bmatrix}$

It can be shown that stress in [+Accented] verbal roots has only two positions; either on the first syllable of the root or on the last, the initially stressed roots making up a very small, almost insignificant, proportion of the [+Accented] roots. Thus, we can take the stress position of [+Accented] roots as the last syllable of the root, marking all [+Accented] roots initially with stress in this position. By a later rule, perhaps post-cyclical, the stress could be shifted onto the first syllable for all roots marked with the features  $\begin{bmatrix} +\text{Acc} \\ +\text{Rec} \end{bmatrix}$ . We shall see later that both Pre-cyclical Stress Rules (1) and (2) will have to be modified.

Only in a few cases do verbs of this group not retain the stress of the nominal root; e.g., p'ékar' 'baker'  $\sim$  p'ekárn'ičat' 'be engaged in a baker's trade'. However, the new stress position is consistent with the m. nom. sg. adjectival form p'ekárnij. Similarly, for póvar 'cook'  $\sim$  povárn'ičat' 'be engaged as a cook'; sl'ésar' 'metal craftsman'  $\sim$  sl'esárn'ičat' 'be engaged as a metal worker'. Only one verb of this type shows stress on the SFS vowel; ozorn'ičát' from ozorn'ík 'mischievous, naughty person'. However the verb, as do the noun and





adjective, shows end stress; e.g., ozorník, ozornój (m. nom. sg.)

A partial list of these verbs and the nouns and adjectives (or other categories) from which they are formed will be given in the Appendix I of this thesis.

These verbs, when unprefixes, are all intransitive, imperfective verbs, with stems ending in -j-; e.g. sl'esár+nič+aj-, pekár+nič+aj-, etc.

It is also interesting to note that for twenty or so of these verbs, a verb exists which for all intents and purposes has an identical meaning (Akademija Nauk SSSR: 1957-61) but contains a different verbal suffix, i.e. a different productive derivational process is employed in the formation of these alternates to the -n'ičat' verbs:

b'espút'n'ičat'	b'espút'n'ik	' a dissolute person ' ; ' lead a dissolute life '
b'espútstvovat'	b'espútstvo	' extremely disordered life, indecent behavior ' ; abandon oneself to dissoluteness, lead a dissolute life '.
brod'áž'n'ičat' -	brod'ága	' a vagrant, vagabond ' ; be a vagabond or vagrant '.
brod'ážit'	brod'ága	; means the same as above.
gáern'ičat'	gáer	' buffoon ' ; ' play the fool '
gáerstvovat'	gáerstvo	- ' buffoonery, tomfoolery ' ; means same as above.
malodúš'n'ičat'	malodúšnij	' faint-hearted, cowardly ' ; ' show lack of spirit, be cowardly '
malodúš'estvovat'	malodúš'estvo	( same as malodúš ie) ; means same as above.
marod'orn'ičat'	marod'or	' marauder, pillager ' ; ' maraud, pillage '
marod'orstvovat'	marod'orstvo	' action of a marauder, pillager ' ; same as above
obezján'ičat'	ob'ezjána	' monkey, ape ' ; ' to ape '



ob'ezján'it'	ob'ezjána ; means as above.
prázdničat'	prázdni'ik ' holiday, festive occasion ' ; ' to celebrate a holiday ' . ' to idle ones time away ' .
prázdnovat '	' to celebrate some festive occasion, holiday ' .
roskošničat'	roskošnij ' luxurious ' ; ' live luxuriously '
roskošestvovat'	roskoš'estvo ' luxury ' ; means same as above.
sabotažničat'	sabotažni'ik ' saboteur ' ; ' to sabotage '
sabot'írovat'	* saboteur ; means same as above.
s'ibar'ít'ničat'	s'ibar'ít ' Sybarite ' ; ' lead a life of a Sybarite '
s'ibar'ítstvovat'	s'ibar'ítstvo ' sybaritism, sybaritic life ' ; meaning as above.
skorómn'ičat'	skorómn'ik ' one who observes feast days, i.e. one who partakes of the proper food as prescribed for feast days ' ; ' to eat the food prescribed by re- ligious instruction on feast days '
skoróm'it's'a	* skorómnij (adj) ; meaning as above.
sl'esár'ničat'	sl'ésar' ' metal worker ' ; ' engage in metal work '
sl'esár'it'	sl'ésar' ; means same as above
stol'ár'ničat'	stol'ár ' joiner ' - ' beca joiner, do a joiner's work '
stol'ár'it'	stol'ár ; meaning as above
stránn'ičat'	stránn'ik ' a wanderer, traveller ' ; ' to wander, travel '
stránstvovat'	stránstv'ie ' a wandering, travelling ' ; " travel, move constantly, '
suprot'ívn'ičat'	suprot'ívn'ik ' adversary, enemy ' ; ' to oppose, object to '
suprot'ív'it's'a	* suprot'ívnij (adj) ' set against something ' (adj.) ; meaning as above
trap'ézn'ičat'	trap'ézn'ik ' in a monastery, the monk who looks to the food for the common table ; the food itself called tráp'éza ; ' in a monastery, to dine, sup together '
trapézovat'	tráp'éza ( see above ) ; meaning same as above



f'igl'ár'n'ičat'	f'igl'ár ' conjurer, fool, jester ' ; ' to act as a fool, jester '
f'igl'ár'it'	f'igl'ár ; same as above
xoz'áj'n'ičat'	xoz'áin ' master, owner ' ; manage a household, play the master, to lord it'
xoz'ájstvovat'	xoz'ájstvo ' agriculture, farming, etc., one's property, belongings' ; to be engaged in one of the above; also has the same meaning as xozáj'n'ičat' above '
f'iskál'n'ičat'	f'iskál ' informer, telltale ' ; ' inform, etc. '
f'iskál'it'	f'iskál ; meaning as above
čajóvn'ičat'	čajóvn'ik 'one who likes tea ' ; to spend much time at drinking tea '
čajevát'	čaj ' tea ' ; means same as čajóvn'ičat' above
čajn'ičat'	čaj ' tea ' ; means same as čajóvn'ičat' above

The derivation of these verbs can be done from either the adjectival or nominal root and in terms of a labelled bracketing will take the approximate following forms:

$$V_{inf}[V_s[N[Adj[N[pákos't']N_{in}][Adj[N_{ej}]]V_s t']]V_{inf}.$$

After the erasure of the brackets, the following form will be derived; pákos t'in'ík'ejt'. After application of consonant sharpening rules and vowel change rules after palatals, the form pakos t'in'ičejt' will go to pákos t'in'ičajt'. The reduced vowel i (opposed to full grade vowel ī) and the j will be elided before consonants by appropriate phonological rules to give the infinitive pákos t'n'ičat'. The reduced vowel of the adjectivalizing and nominalizing formant suffix -in- is posited since in all forms, nominal, adjectival, and verbal, the consonant /l/ is sharpened before the /n/; e.g., bez d'él'n'ik, b'ez d'él'n'ij, b'ez d'él'n'ičat'.





Other consonants will be non-sharp before /n/ after application of the appropriate phonological rules.

3.25 The final sub-group of the -at' class of verbs are those which contain the complex -ov+a- suffix (-ev+a- after palatals and palatalized consonants). These are examined separately because of a seemingly peculiar phonological process which occurs in the forms which are constructed from the Extended Verbal Stem (i.e. BASIC STEM + PRES.), viz., the -ov- to -uj- alternation. This alternation presents special problems both with respect to the stress rules and the derivational rules. We will deal with these problems at the end of this section in more detail.

With the exception of 7 or 8 disyllabic infinitives which have the -ova-/-eva- suffix, all the verbs of this sub-group can be considered as having constant stem stress. This can be illustrated if we examine the constituent structures of some of these verbs with their basic stems and stress location. For example:

<u>Infinitive</u>	<u>3 sg. pres.</u>	<u>Basic Stem</u>
1. <u>bódrstvovat'</u> 'be awake'	<u>bódrstv+uj+e+t</u>	<u>bodrstv+ou+a+t'</u>
<u>unasl'édovat'</u> 'inherit'	<u>u+na+sl'éd+uj+e+t</u>	<u>u+na+sl'ed+ou+a+t'</u>
2. <u>sušč'estvovát'</u> 'exist'	<u>sušč'estv+új+e+t</u>	<u>sušč'estv+ou+a+t'</u>
<u>buš'evát'</u> 'rage'	<u>buš+új+e+t</u>	<u>buš+ou+a+t'</u>

It will be noted that no matter whether the root is stressed as in bódrstvovat' or the SFS vowel as in sušč'estvovát', the -ov- which alternates with -uj- in the present tense is always retained in the present tense forms. The stress therefore remains constantly on the stem (i.e. the root or the -uj- suffix which forms part of the stem),



the -uj- suffix acquiring the stress only in those cases where the SFS vowel -a- is stressed in the infinitive; e.g. suščestvovat', suščestv+új+u, suščestv+új+eš, suščestv+új+et,...etc. Included in this same sub-group are the -ír+ov+at' and -ir+ov+át' verbs which show similar stress patterns; i.e. -ír-ov+at' ~ -ír+uj+u, ír+uj+eš..., and -ir+ov+át' -ir+új+u, -ir+új+eš,...etc. In a summary discussion of stress in the -irovat' verbs, V.L. Voroncova (1967) has shown that there is still some vacillation in the stress position in the infinitives of this type. In some, the stress is phonemic; e.g., plan'irovát' 'to construct a plan' and plan'írovat' 'to descend slowly in some flying apparatus'. In others, this stress vacillation is a stylistic variation; ballot'írovat' or ballotirovát', 'to vote', with the latter being considered archaic. In this type of infinitive, according to Voroncova, the tendency is for stress to become established on the -ir- suffix.

A word of caution is necessary with respect to the verbs which have infinitives ending in -evat'. It was mentioned earlier that there are seven disyllabic verbs ending in -evat' ~ -ovat' which exhibit a stress pattern inconsistent with that of the rest of the -ovat' ~ -evat' verbs. These show stress I-C (I conj., end stress), for example:

<u>sno vat'</u> -	<u>snuj+ú</u> , <u>snuj+óš</u> , <u>snuj+ót</u> ...etc.,
<u>so vat'</u> -	<u>suj+ú</u> , <u>suj+óš</u> , <u>suj+ót</u> ,...
<u>žev at'</u> -	<u>žuj+ú</u> , <u>žuj+óš</u> , <u>žuj+ót</u> .....,
<u>kl'ev at'</u> -	<u>kl'uj+ú</u> , <u>kl'uj+óš</u> , <u>kluj+ót</u> ,...
<u>ko vat'</u> -	<u>kuj+ú</u> , <u>kuj+óš</u> , <u>kuj+ót</u> ,...
<u>pl'ev at'</u> -	<u>pl'uj+ú</u> , <u>pl'uj+óš</u> , <u>pl'uj+ót</u> ,...
<u>bl'ev at'</u> -	<u>bl'uj+ú</u> , <u>bl'uj+óš</u> , <u>bl'uj+ót</u> ,...



These verbs differ from other -ov at' ~ -ev at' verbs in one major respect; they do not have the -eva- formant suffix but only -a-. The -ov- and -ev- should be considered as part of the root, i.e. kov+at't', pl'ev+at't', ...etc. In all of the present tense forms, the -uj- constitutes the only syllable of the stem in contradistinction to other verbs, e.g., kuj+ú vs. suscestv+új+u (1p. sg. pres.) where -uj- is considered to be a formant suffix. These other verbs have at least one other syllable in the stem before the -uj- suffix. Listed below is a small sample of such verbs:

noč+ev+á+t' ' to spend the night '

mal'+ev+á+t' ' to paint '

korč+ev+a+t' ' to root, grub out '

suščestv+ov+á+t' ' to exist'.

However, the disyllabic infinitives will be analysed as:

kov+á+t' ' shoe, forge '

žev+á+t' ' chew '

rather than k+ov+á+t', ...etc. In actual fact, it can be shown that the -v- in all of these forms can be derived from an underlying -u- (Lightner 1967; pp. 44-45). Such a segmentation would also explain the seemingly exceptional stress behavior of the verb d'n'evát' ' spend the day ', e.g., d'n'új+u, d'n'új+eš, d'n'új+et, ...etc., where one would expect the stress to be \*d'n'uj+ú, \*d'n'uj+oš, ...etc., consistent with pl'uj+ú, pl'uj+ós. However, if we analyze this verb not as \*d'n'ev+á+t' but d'n'+ev+á+t', we see that it behaves regularly like noč+ev+á+t', i.e. noč+új+u, noč+új+eš, ...etc. This is explained by the fact that this verb is derived from dini, i.e. d'en' ' day ', like noč+ev+á+t' from noč ' night '.





For verbs of the type plan'ir ovat, mob'il'iz'rovat' 'mobilize,' we will consider the segments -ir- and -iz-ir- as part of the root rather than part of the entire verb suffix; i.e. mob'il'iz'ir+ov+a+t' instead of mobil'+iz'+ir+ov+a+t'. These verbs are not of Russian origin but reflect borrowings from French and German, (French verbs in -iser and German -ieren). In this way we could reduce the three complex verbal suffixes -ov+a-, -ir+ov+a-, and -iz'+ir+ov+a- to one; -ov+a-.

There are some verbs which in the infinitive look identical to the kl'evá't', ževá't verbs but do not show the -ev- ~ -uj- alternation in the present tense. Rather they have basic stems ending in -aj-; e.g., z'eva t' 'yawn, gape', with basic stem z'ev+aj-; z'ev+áj+u, z'ev+áj+eš...etc. In addition, there are imperfective ~ perfective pairs of the type s p'evát's'a ~ s p'ét's'a 'rehearse' and d'evá't' ~ d'et' 'to put', where the basic stems of the imperfectives are s p'ev+aj- and d'ev+aj-. A similar phenomenon is evident in the derivation of the secondary derived imperfectives from imperfectives with -et' type infinitives. These verbs have basic stems in -ej-; e.g., s p'ej+t' (impf.) p'er'es p'ej+t' (pf) p'er'es p'ej+v+aj+t' (DI); gr'ej+t' (impf.) na+gr'ej+t' (pf.) na+gr'ej+v+aj+t' (D.I.). There, the DI's also have their basic stems ending in -aj- although superficially the infinitives look like regular -ov+a verbs.<sup>8</sup>

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<sup>8</sup> Although the secondary imperfectives constitute a group outside the scope of this thesis, since they are formed by prefixation and suffixation, the stress patterns are entirely predictable. Furthermore, they exhibit certain phonological features which deserve special attention. If we take the tripartite correlation of the verbs gl'ad'et' 'to gaze upon' and vlad'et' 'to own'; gl'ad'et' ~ ogl'ad'et' ~ ogl'ad'+iv+aj+t' and vlad'et' ~ ovlad'et' ~ ovlad'+ev+áj+t', we see



Four other verbs, davát' 'give', ustavát' 'to tire', vstavát' 'rise, get up', uznavát' 'recognize', can be considered along with the -ov+a-~uj- verbs although their derivation is slightly different. These verbs exhibit a -v+a~j- alternation in the present tense; e.g., da+v+a- ~ da+j+ú (1sg.), da+j+óš (2 sg.); u+sta+v+a- u+sta+j+ú, u+sta+j+óš, ...etc.

that both the -iv+aj- and the -ev+aj- formant suffixes constitute allomorphs of the same morphemes. That is, they are imperfectivizing suffixes. But in the case of the -iv+aj- suffix, the stress falls on the syllable immediately preceding it, while in the -ev+aj- suffix, stress falls on the -aj- SFS vowel; i.e. the stem ends in -ev+aj-. Again, if we take the verbs, ostanov'ít' 'to stop', and p'er'el'et'ét' and the tripartite correlations ostanov'ít' ~ ustanovl'at ~ ustanavl'+iv+aj+tt' and p'er'el'et'ét' ~ p'er'el'etát' ~ p'er'el'ót+iv+aj+tt', we see that there is another allomorph, namely, the -iv+aj- suffix of ostanavl'+iv+aj+tt' (i.e. where the preceding consonant is palatalized). The same situation is seen in the secondary impf. of smotr'ét' 'to look, gaze at', e.g., smotr'ét' ~ osmotr'ét' ~ osmátr+iv+aj+tt' and in s'id'et' 'to sit'; e.g., s'id'et' ~ pros'id'et' ~ pros'iz+iv+aj+tt'. But at the same time, in the derivation of verbs from gl'ad'et' and l'et'et' of the same -et' class, we have -iv+aj- without any sharpening of the stem-final consonants. There is then a consistent substitutive softening of the stem-final consonants of the -it' type verbs, but rare occurrences of the same phenomenon in the -et' type. This raises the question of how the proper allomorph is to be predicated (actually, there are only two which present a problem, -iv+aj- and -iv+aj-. Since -ev+aj- is really -v+aj- added onto the root, e.g., nagr'evat', (((na+grej)+v+aj)+tt'). Morris Halle (1963: 121, 128-129) sets up three imperfectivizing suffixes, -ov+aj-, 0-aj-, and -V+aj-, where in the second suffix, 0 represents an unspecified rounded vowel, i.e. an archiphoneme, and the -aj-~aj- represents unstressed and stressed suffixes. Halle states (1963:128) that we are not dealing with the morphophonologic /iv+aj/ since according to R.I. Avanesov (Russkoe literaturnoe proiznošenie; p. 136) the sounds [i] and [i'] are the normal sounds that appear post-tonically in place of [o]. Although it is not stated as such, Halle in fact implies that -iv- and -iv- will occur automatically in post-tonic position in place of -ov- depending upon the character of the preceding consonant, i.e. sharp or non-sharp. But, the fact remains that the roots in the above examples, e.g., -gl'ad- from vzgl'ad 'a glance', l'ot 'flight', s'id- from s'id'et', 'to sit', smotr- 'review', must be redundantly specified as ending in non-sharp consonants (cf. Theodore Lightner, 1965:20, Doctoral Dissert., "sharpening of consonants will be accounted for by requiring that all consonants in underlying representations be (redundantly) specified non-sharp..."). Consequently, -iv- and -iv- cannot be derived from Morris Halle's -ov-. Theodore Lightner (Segmental Phonology...) does not deal with this particular type of imperfectivization (derived impf. in his terminology).





The derivation of these verbs is not quite clear and presents some problems within the framework developed by Halle and Lightner. We need not go into this problem in this thesis.

3.26 We can now reconsider Pre-cyclical Stress Rules (1) and (2) in light of the data presented for the -at' verbs.

PC (1)

$$V \longrightarrow [+stress] / \left[ \begin{array}{c} V \\ -Acc \end{array} \right] Co + Co \text{ ---}$$

PC (2)

$$V \longrightarrow [+stress] / \left[ \begin{array}{c} \text{---} \\ +Acc \end{array} \right] Co+$$

For the moment it will be assumed that the above two rules assign initial stress to the basic stems, which will then be the input to the cyclical rules of the phonological component. We will further suppose that cyclical rules are necessary for final stress placement in the derived verbal forms, finite and infinite. The cyclical rules used by Lightner (1967:47) for verbal derivation will be adopted without essential modification.

C(1) unrounded vowel  $\longrightarrow$  j before a rounded vowel

C (2) u  $\longrightarrow$  v before a vowel

i  $\longrightarrow$  j before any vowel except i

C(3) vowels are truncated before vowels

C(4) consonants are softened (palatalized, sharpened) and velars replaced by palatals

(a) before the morpheme o followed by a consonant; and

(b) before a morpheme beginning with a front vowel.

C(5) Transitive softening occurs before j; after which j drops.

Also, we will use Lightner's bracketing of immediate constituents rather than the one proposed in this thesis since our bracket-





ing is incompatible with the cyclical rules formulated by Lightner. (Verbs such as torgovát', for example, cannot be properly derived using our bracketing and Lightner's cyclical rules.) His bracketing is:

$$\begin{array}{ccccccc} ( & ( \text{ROOT} + \text{VERB SUFFIX} + \text{PRESENT} ) & + & ( \text{PERSON-NUMBER} ) & ) \\ \text{V} & \text{Ps} & & \text{Ps} & \text{E} & & \text{E} & \text{V} \end{array}$$

Before proceeding to the derivation of verbal forms it will be necessary to add another cyclical rule - one for stress shift - which will apply before any of the above derivational rules (cf. Harms 1968: 69):

$$\begin{array}{ccc} \text{C(1)} & \text{SD:} & \begin{array}{c} \left[ \begin{array}{c} -\text{cons} \\ +\text{voc} \\ +\text{stress} \end{array} \right] \\ 1 \end{array} \quad \begin{array}{c} \left[ \begin{array}{c} -\text{cons} \\ +\text{voc} \end{array} \right] \\ 2 \end{array} \\ \\ & \text{SD:} & \begin{array}{c} 2 \xrightarrow{\quad} [+ \text{stress}] \\ 1 \xrightarrow{\quad} [- \text{stress}] \end{array} \end{array}$$

The application of these rules to the morphophonemic representations of verbs like kričát' ( $[-\text{Acc}]$ ), plákat' ( $[+\text{Acc}]$ ), and skakát' ( $[-\text{Acc}]$ ) will give the following derivations:

inf. kričát':  $(\text{krik} + \bar{\text{e}} + \text{t}')$   $\xrightarrow{\text{PC(1)}}$   $(\text{krik} + \bar{\text{e}} + \text{t}')$   $\xrightarrow{\text{C(1')}, (2), (3)}$  inapplicable  $\xrightarrow{\text{C(4)}}$   $(\text{krič} + \bar{\text{e}} + \text{t}')$

We must add yet another rule proposed by Lightner (p.50) in order to obtain the desired form kričat'. We can label this rule P(1) and have it apply after the cycle.

P(1)  $\bar{\text{e}} \xrightarrow{\quad} \text{a}$  after a palatal

After application of P(1), we obtain the desired kričat'.

1sg kričú:  $((\text{krik} + \bar{\text{e}} + \text{i}) + \text{u})$   
 First Cycle:  $((\text{krik} + \bar{\text{e}} + \text{i}) + \text{u})$   $\xrightarrow{\text{PC(1)}}$   $((\text{krik} + \bar{\text{e}} + \text{i}) + \text{u})$   $\xrightarrow{\text{C(1')}}$   $((\text{krik} + \bar{\text{e}} + \text{i}) + \text{u})$   $\xrightarrow{\text{C(1)(2)}}$  inapplicable  
 $\xrightarrow{\text{C(3)}}$   $((\text{krik} + \text{i}) + \text{u})$   $\xrightarrow{\text{C(4)}}$   $((\text{krič} + \text{i}) + \text{u})$   $\xrightarrow{\text{C(5)}}$  inapplicable.



Second Cycle:  $(krič^{v}+i+u) \rightarrow C(1) \rightarrow (krič^{v}+i+ú) \rightarrow C(2) \rightarrow$   
 $(krič^{v}+j+ú) \rightarrow C(5) \rightarrow \text{inapplicable}$

Note that within the cyclical rules proposed by Lightner, a velar can be replaced by a palatal on two occasions; before a front vowel or before j. In the second cycle, C(5) applies vacuously since k was palatalized in the first cycle by the front vowel i. Observe also, that there is no way of getting rid of the j in the last derivation of the second cycle; i.e. krič<sup>v</sup>+j+ú. Since this j has not palatalized k, it cannot be dropped. The reason for this is that the j - truncation is part of the palatalization rule ( C(5) ); i.e. the rule, is in essence:

SD:  $\begin{bmatrix} +cons \\ 1 \end{bmatrix} \begin{bmatrix} j \\ 2 \end{bmatrix}$

SC:  $\begin{matrix} 1 \\ 2 \end{matrix} \begin{matrix} \longrightarrow & \text{palatal} \\ \longrightarrow & \text{null} \end{matrix}$

However since the structural description is not met by the form krič<sup>v</sup>+j+ú, the rule for truncating j cannot apply. Aside from this technicality, we can see from the application of the rules to a [-Acc,-Rec] verb of the type kričá't', the desired stress position is obtained.

Now let us apply the rules to a [-Acc,-Rec] verb like čítát'.

inf. čítá t':  $(\check{c}it+aj+t') \xrightarrow[\text{all other rules inapplicable.}]{PC(1)} (\check{c}it+áj+t) \rightarrow$

The j will be truncated before consonants by another post cyclical rule which will not be introduced here.

1sg. čítáju:  $((\check{c}it+aj+o)+u)$

First Cycle:  $((\check{c}it+aj+o)+u) \xrightarrow[\text{all other rules inapplicable.}]{PC(1)} ((\check{c}it+áj+o)+u) \rightarrow$



Second Cycle: ( $\check{c}it+\acute{a}j+o+u$ )  $\longrightarrow$  C(1'), C(1);(2)  $\longrightarrow$   
 inapplicable  $\longrightarrow$  C(3)  $\longrightarrow$  ( $\check{c}it+\acute{a}j+u$ )  $\longrightarrow$   
 C(4), (5)  $\longrightarrow$  inapplicable  $\longrightarrow$   $\check{c}it\acute{a}ju$

We have deviated here from our proposed postulation of the present vowel e and have used the present vowel o as suggested by Lightner. This was done in order that rule (1) obtain the desired j; i.e.  $a \longrightarrow j$  before o. In addition, we can see that in the derivation of  $\check{c}it\acute{a}t'$  the desired stress placement is obtained. For [+Acc,-Rec] verbs such as  $pl\acute{a}'kat'$ , the same results will be achieved since once the pre-cyclical stress rule places stress on a morpheme which is not a single vowel, the stress will remain on that same morpheme throughout the entire cycle. For example:

1sg.  $pl\acute{a}\check{c}u$ : (( $plak+a+o$ )+ $u$ )

First Cycle: (( $plak+a+o$ )+ $u$ )  $\xrightarrow{[+Acc]}$  PC(2)  $\longrightarrow$  (( $pl\acute{a}k+a+o$ )+ $u$ )  
 $\longrightarrow$  C(1')  $\longrightarrow$  inapplicable  $\longrightarrow$  C(1)  $\longrightarrow$   
 (( $pl\acute{a}k+j+o$ )+ $u$ )  $\longrightarrow$  C(5)  $\longrightarrow$  (( $pl\acute{a}c+o$ )+ $u$ )

Second Cycle: ( $pl\acute{a}\check{c}+o+u$ )  $\longrightarrow$  C(3)  $\longrightarrow$  ( $pl\acute{a}\check{c}+u$ )  $\longrightarrow$   $pl\acute{a}\check{c}u$

We will now try to derive the correct forms for [-Acc,+Rec] verbs such as  $skak\acute{a}t'$ . Within the cycle, we will apply only the pertinent rules, disregarding those which are inapplicable in order to shorten the derivation.

inf.  $skak\acute{a}t'$ : ( $skak+a+t'$ )  $\xrightarrow{[-Acc]}$  PC(1)  $\longrightarrow$  ( $skak+\acute{a}+t'$ )  $\longrightarrow$   
 $skak\acute{a}t'$  all other rules inapplicable

1sg.  $ska\check{c}\acute{u}$ : (( $skak+a+o$ )+ $u$ )  
 [-Acc]

First Cycle: (( $skak+a+o$ )+ $u$ )  $\longrightarrow$  PC(1)  $\longrightarrow$  (( $skak+\acute{a}+o$ )+ $u$ )  $\longrightarrow$   
 C(1')  $\longrightarrow$  (( $skak+a+\acute{o}$ )+ $u$ )  $\longrightarrow$  C(1)  $\longrightarrow$   
 (( $skak+j+\acute{o}$ )+ $u$ )  $\longrightarrow$  (( $ska\check{c}+o$ )+ $u$ )





Second Cycle:  $(ska\check{c}+o+u) \longrightarrow C(1') \longrightarrow (ska\check{c}+o+\acute{u}) \longrightarrow$   
 $C(3) \longrightarrow (ska\check{c}+\acute{u}) \longrightarrow \underline{ska\check{c}\acute{u}}$

3 sg. skáčet:  $((skak+a+o)+t)$

First Cycle:  $((skak+a+o)+t) \longrightarrow PC(1) \quad ((skak+\acute{a}+o)+t) \longrightarrow$   
 $[-Acc]$   
 $C(1') \quad ((skak+a+\acute{o})+t) \longrightarrow C(1) \longrightarrow$   
 $((skak+j+\acute{o})+t) \longrightarrow C(5) \longrightarrow ((ska\check{c}+\acute{o})+t)$

Second Cycle:  $(ska\check{c}+\acute{o}+t) \longrightarrow$  no rules applicable

It is easily seen that here we must introduce another rule for  $[-Acc, +Rec]$  verbs which will retract the stress onto the root in all forms of the singular except the 1 sg. Since the 1 sg. is the only form in which the verb ends in an open syllable, we can formulate the following post-cyclical rule.

$$P(2) \quad V \rightarrow [+stress] \quad / \quad \boxed{\begin{array}{c} -Acc \\ +Rec \end{array}} \quad Co +Co VC$$

This rule will retract the stress from non-final vowels onto the root only in those cases where the root is specified with the feature  $[+Rec]$  in addition to  $[-Acc]$ .

If we apply P(2) to  $(ska\check{c}+\acute{o}+t)$  we will obtain  $(ská\check{c}+o+t)$ , the o present morpheme becoming unstressed by convention. A low level phonological rule will reduce the o  $\longrightarrow$  i in unstressed position, giving the final form skáčit.

However, the infinitive skakat' also has a closed final syllable and our rule will retract the stress incorrectly to the first syllable \*skákat'. We can block this stress shift in the infinitive by introducing a special stem boundary marker (=). This boundary will be of a higher order than the morpheme formative boundary (+) and we will adopt the convention that this stem boundary



marker will be used to designate the last derivational suffix entering into the formation of a lexical category. Thus, for example, the derivational history of the verb vz'atocn'icat' 'be in the habit of accepting bribes', can be illustrated in the following manner:

- (a) [vzat'=] 'take'
- (b)  $\begin{matrix} V & & V \\ [V[vz'at]_V + ok =] & & \end{matrix}$  'bribe'
- (c)  $\begin{matrix} N & & N \\ [ [ [vz'atok] + ok ] + inik = ] & & \end{matrix}$  'one who takes bribes'
- (d)  $\begin{matrix} V_{inf} & [ & [ & [ & [vz'at'] + ok ] + inik ] + ej = ] + t' ]_{V_{inf}} & & \\ & V_s & N & V & V & N & N & V_s & \end{matrix}$  'be in the habit of taking bribes'.

The difference then between the infinitive skak+a=t' and the 3 sg. is the stem is shortened by one syllable and that stress in these recessive verbs can be said to fall on the last syllable of the stem of all forms. We can then reformulate rule P(2) to include this new feature:

$$P(2) \quad V \longrightarrow [+stress] \left[ \begin{array}{c} -Acc \\ +Rec \end{array} \right] \quad Co = CoVC$$

The infinitive (skak+a=t') will not be affected by this rule, while the 3 sg., which will have stress placed on the present morpheme 0 by the cyclical rules (i.e. (skac=ó+t) will have it retracted onto the root by P(2)):

$$(skač=ó+t) \longrightarrow \underline{skáčot}.$$

We can now apply these rules to other verbs, for example,

torgová't' 'trade, bargain, suščestvová't' 'exist', etc.

$$\begin{aligned} \text{inf. } \underline{torgovát'}: & \quad (torg+ou+a=t') \xrightarrow{P(1)} (torg+óu+a=t') \\ & \quad [-Acc] \\ & \quad \longrightarrow C(1') \longrightarrow (torg+ou+a=t') \longrightarrow C(2) \longrightarrow (torg+ov+a=t') \end{aligned}$$



Here the cyclical rules convert the stressed -u- to -v-, thereby cancelling the stress which no other rule will replace.

1 sg. torgúju: ((torg+ou+a=o)+u)

First Cycle: ((torg+ou+a=o)+u)  $\xrightarrow{[-Acc]} PC(1) \rightarrow ((torg+ou+a=o)+u) \xrightarrow{C(1')} ((torg+ou+a=o)+u) \xrightarrow{C(1)} ((torg+ou+j=o)+u) \xrightarrow{C(3)} ((torg+ú+j=o)+u)$

Second Cycle: (torg+ú+j=o+u)  $\xrightarrow{C(3)} (torg+ú+j=u) \rightarrow$   
torgúju

In the present forms, the correct results are obtained. The correct stress placement in the infinitive can be achieved if we reformulate the complex formative suffix -ov+a-. From an examination of complex suffixes it is found that there are three: -v+aj-, -iv+aj-, and -ov+aj-. We can consider them to be complexes of the sort, that is

$$\begin{Bmatrix} \emptyset \\ i \\ o \end{Bmatrix} + v+aj,$$

consisting of three morphemes. Also this -o- of the complex suffix is never stressed. This analysis captures a certain generality. In verbs derived from complex nominal and adjectival stems, there are several other suffixes (nominalizing, etc.) which are also never stressed; e.g. -tel' as in žela'tel'+stv+o+v+a+t', -nič' as in káverz+n'ič'+a+t', and -estv-, as in monaš'estv+o+v+a+t'. Consequently, we can consider -o-, -nik-, -estv- to be [-Accented] segments.

We can then reformulate the pre-cyclical rule for stress placement in [-Accented] stems as follows:

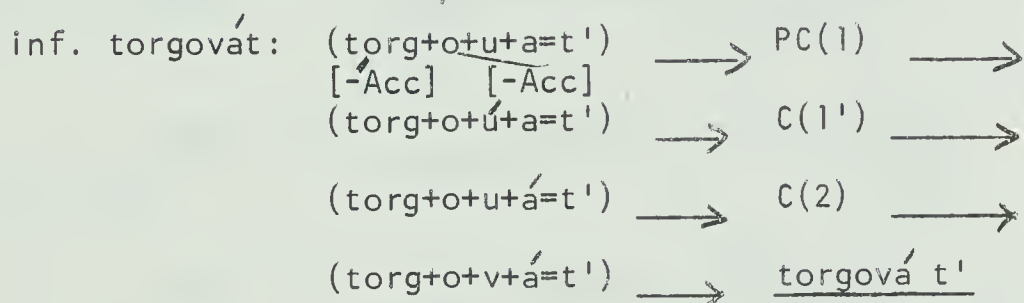
$$P(1) \quad V \xrightarrow{[+stress]} \left/ \begin{Bmatrix} V \\ [-Acc] \end{Bmatrix} \right. Co+ \text{ --- }$$

Where the V going to stress is not specified for the feature of accentedness.

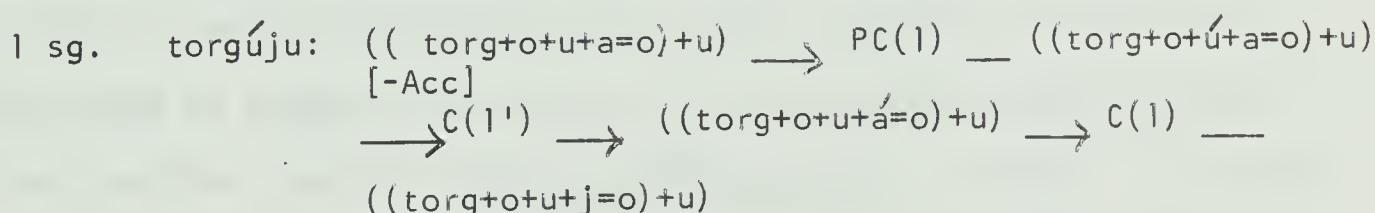




In other words, this rule will place the stress on the vowel immediately following the last [-Accented] vowel if that vowel is not specified for either the feature [ $\pm$ Accented]. Since we are only specifying roots as [ $\pm$ Accented], this rule should obtain the correct initial stress placement. Applying this reformulated rule to the infinitive of torgová t' we see that in fact the stress does fall on the proper vowel.



However, if we attempt to apply this rule to the present tense forms of the verb, which is [-Acc,-Rec], we find that there is an ordering paradox within the cyclical rule.



Here we would want the rule which converts an unrounded vowel to j before a rounded vowel to apply before the stress shift rule. This would yield the desired result for this verb by blocking the stress shift rule C(1'). However for end stressed verbs such as kr'ičát' 'shout' we want the opposite ordering since after the initial placement of stress by PC(1) we want to shift the stress onto the next vowel before a  $\rightarrow$  j. This ordering paradox cannot be resolved within the present thesis and we propose that stress assignment be carried out post-cyclically.



3. 27 The following rules have been designed to apply to the derived verbal forms immediately after the transformational cycle.

$$P(1) \quad V \longrightarrow [+stress] / \left[ \begin{array}{c} V \\ -Acc \end{array} \right] Co + \text{---}$$

where V is the first vowel of the word not marked for features of accentedness.

$$P(2) \quad V \longrightarrow [+stress] / \left[ \begin{array}{c} \text{---} \\ +Acc \end{array} \right] Co +$$

$$P(3) \quad V \longrightarrow [+stress] / \#Co \left[ \begin{array}{c} +Acc \\ +Rec \end{array} \right]$$

$$P(4) \quad V \longrightarrow [+stress] / \left[ \begin{array}{c} -Acc \\ +Rec \end{array} \right] Co = Co \quad VC_1 \#$$

The addition of rule (3) was necessary in order that verbs with initial root stress be accounted for. It is a general characteristic of root stressed verbs that stress is either on the initial syllable of a polysyllabic root or on the syllable preceding the verb suffix. Verbs of the type káverz-nícat' 'engage in intrigue chicanery,' jáb'ed-n'ícat' 'tell tales', vz'á toč-n'íčat' 'take bribes', fall into this category and will be marked with the features [+Acc,+Rec].

We can now apply these rules to verbal forms which have gone through the transformational cycle:

$$\begin{array}{lcl} \text{inf. } \underline{\text{skaká t'}}$$

$$\begin{array}{l} (skak+a=t') \\ [-Acc] \\ [+Rec] \end{array} \longrightarrow P(1) \longrightarrow (skak+a'=t) \longrightarrow$$

$$P(2), (3), (4) \longrightarrow \text{inapplicable} \longrightarrow \underline{\text{skaká t'}}$$
  

$$\text{1 sg: } \underline{\text{skačú'}}$$

$$\begin{array}{l} (skač=u) \\ [-Acc] \\ [+Rec] \end{array} \longrightarrow P(1) \longrightarrow (skač=u') \longrightarrow$$

$$P(2), (3), (4) \longrightarrow \text{inapplicable} \longrightarrow \underline{\text{skačú'}}$$

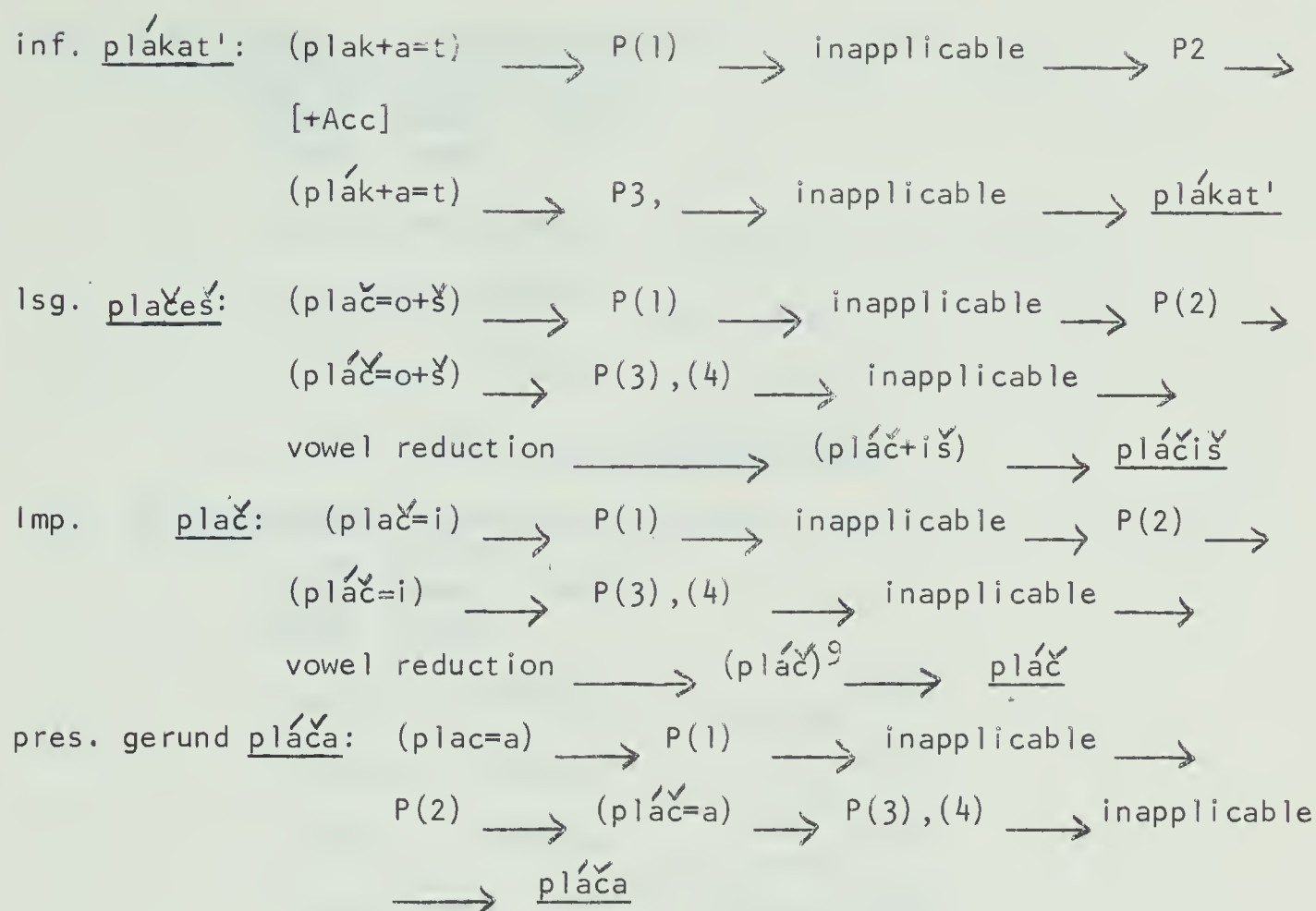


- 3 sg: skáčeš: (skáč=o+š)  $\xrightarrow{P(1)}$  (skáč=o'š)  $\xrightarrow{P(2),(3)}$   
 $\xrightarrow{[-Acc, +Rec]}$  inapplicable  $\xrightarrow{P(4)}$  (skáč=o+š)  $\xrightarrow{\text{vowel reduction}}$  skáciš
- Imp. sg: skáči: (skáč=i)  $\xrightarrow{P(1)}$  (skáč+i)  $\xrightarrow{P(2,3,4)}$   
 $\xrightarrow{\text{inapplicable}}$  skáči
- pres. gerund skáčá: (skáč=a)  $\xrightarrow{P(1)}$  (skáč=a)  $\xrightarrow{P(2),(3),(4)}$   
 $\xrightarrow{\text{inapplicable}}$  skáčá
- inf. kričát': (krič+a=t')  $\xrightarrow{P(1)}$  (krič+á=t)  $\xrightarrow{P(2,3,4)}$   
 $\xrightarrow{[-Acc, -Rec]}$  inapplicable  $\xrightarrow{P(2,3,4)}$  kričát'
- 1sg. kričú: (krič=u)  $\xrightarrow{P(1)}$  (krič=ú)  $\xrightarrow{P(2),(3),(4)}$   
 $\xrightarrow{\text{inapplicable}}$  kričú
- 3sg. kričít: (krič=i+t)  $\xrightarrow{P(1)}$  (krič=i't)  $\xrightarrow{P(2,3,4)}$   
 $\xrightarrow{\text{inapplicable}}$  kričít
- imp. sg: kričí: (krič=i)  $\xrightarrow{P(1)}$  (krič=i)  $\xrightarrow{P(2,3,4)}$   
 $\xrightarrow{\text{inapplicable}}$  kričí
- pres. gerund: kričá: (krič=a)  $\xrightarrow{P(1)}$  (krič=a)  $\xrightarrow{P(2,3,4)}$   
 $\xrightarrow{\text{inapplicable}}$  kričá
- inf. torgovát': (torg+o+v+a=t')  $\xrightarrow{P(1)}$  (torg+o+v+á=t')  $\xrightarrow{P(2,3,4)}$   
 $\xrightarrow{[-Acc, -Rec]}$  inapplicable  $\xrightarrow{P(2,3,4)}$  torgovát'
- 1sg. torgúju: (torguj=u)  $\xrightarrow{P(1)}$  (torgúj=u)  $\xrightarrow{P(2,3,4)}$   
 $\xrightarrow{[-Acc, -Rec]}$  inapplicable  $\xrightarrow{P(2,3,4)}$  torgúju

... and similarly for the other present forms, the imperative sing. torgúj and the pres. gerund torgúja since P(1) will assign stress to the -uj- morpheme in all cases.







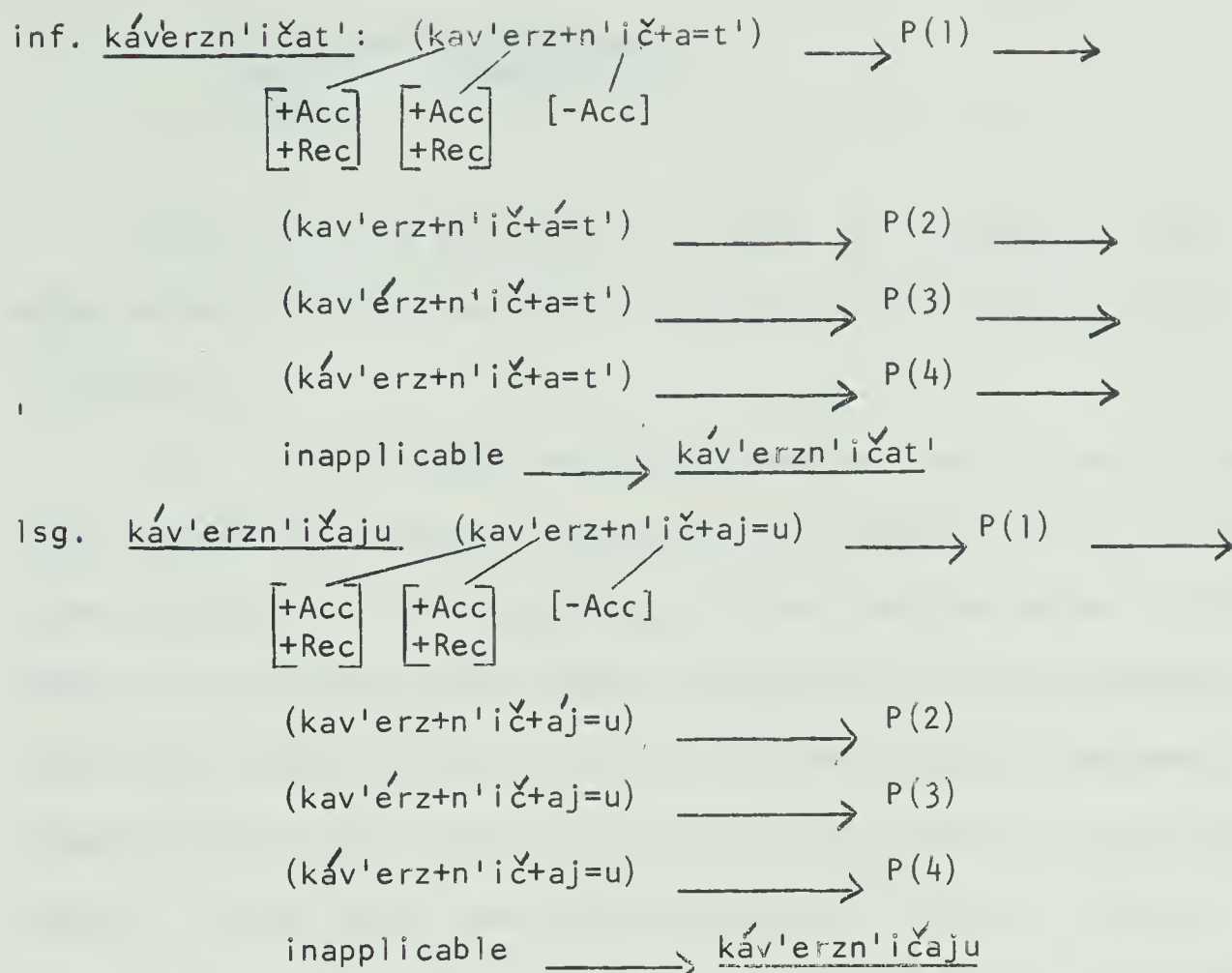
From the above derivations it would seem that rule pairs P(1) and P(4), and P(2) and P(3) act 'independently of each other; the former assigning stress to roots having the feature [-Acc], the latter to those which have the feature [+Acc]. This independence, however, is confined to simple stems only. To show that these rules apply in an interdependent manner for complex stems<sup>10</sup> we have only to apply these stress rules to verbs such as ká verzn'icat', sl'esárn'icat', and patr'iaršestvovat',... etc.

<sup>9</sup> A low level phonological rule will truncate the imperative morpheme i after stressed stems, except where a consonantal cluster C<sub>1</sub>C<sub>2</sub> exists stem finally, e.g. kříkn'i

<sup>10</sup> By complex stems we mean those that contain derivational suffixes (i.e. nominalizing suffixes, ) and complex verbal suffixes, e.g.

<u>dobro</u>	+	<u>žela</u>	+	<u>t'el'istv</u>	+	<u>otv+a = t'</u>	and
Prefix		Root		Nominalizing Suffixes		Complex verbal Suffix	





... and similarly for all other finite forms under discussion in this thesis. The reason for the three rules applying is that the structural description for the application of the rules is met by virtue of the twofold specification of the stems as [+Acc] and [-Acc].

For the verb sl'esá'rn'ičat' which is [+Acc,-Rec], only P(1) and P(2) will apply. In the same manner, the verb patr'iáršest-vovat' would have the feature specifications of [-Acc] and [+Acc] as follows:

suščestv + otv+a=t'

nom. root    complex verbal suffix

as opposed to simple stems such as

moróz + i=t'    'freeze'

nom. root    verbal suffix

and    kásl' + a=t'    'cough'

nom. root    verbal suffix



(patr<sup>1</sup>iar<sup>s</sup>+estv<sup>v</sup>+ot<sup>v</sup>+a=t<sup>1</sup>)  
 [+Acc] [-Acc] [-Acc]  
 [-Rec]

Rule P(1) would place initial stress on the †a= SFS vowel after which Rule P(2) would shift the stress onto the last vowel of the root.

3.3. In this chapter we have presented a major class of verbs with diverse derivational characteristics along with all stress patterns possible in the conjugational system. At the outset of this thesis it was assumed that stress assignment could be accounted for within the transformational cycle of the phonological component by ordering the stress rules within the existing rules for verbal derivation. It was found that the interaction of these two types of rules led to certain complications, one of which was an ordering paradox in the cycle. Also, it was found that the stress assignment rules could be positioned immediately after the transformational cycle and that no difficulty was encountered in assigning stress to the derived forms. Without further justification it was assumed that this was the position the rules should occupy within the phonological component of a grammar of Russian. The justification for this assumption, or the lack of it, will be discussed in greater detail in the conclusion to this thesis.

Further, the rules proposed acted independently of each other when applied to simple stems, the diacritic features [<sup>±</sup>Acc] and [<sup>±</sup>Rec] triggering the stress shifts. However, when applied to complex derived stems, the rules were found to be interdependent, both rules for [-Acc]





stems applying to these complex stems. In addition, it was proposed that these rules have a strict ordering, and that the ordering of the rules was that in which they are given.

In the following chapter, where the remainder of the verbal classes are given, it will be seen that the same rules will account for the stress patterns with no changes required.



## Chapter IV

## APPLICATION OF THE RULES TO THE SECOND

## CONJUGATION AND IRREGULAR VERBS

4.0 We turn now to the consideration of the remaining classes of verbs.

One of the major classes, referred to briefly in connection with the discussion of the -at' statives (with underlying velarte), consists of the -et' type verbs. These can be grouped into two sets: those which retain the SFS (-ej- in the basic stem) and are consequently 1 conjugation, constant root or stem stress; and those which drop the -e- SFS vowel in the present tense. As was mentioned previously, verbs with basic stem ending in -e- (rather than -ej-) invariably belong to the second conjugation; e.g., v'íd'et' 'see' v'íž+u, v'íd'iš..., s'idét' 'sit' s'iž+ú, s'id'iš..., smocr'ét' 'look (at)' smotr'+ú, smótr'iš... etc. This very same phonological distinction reflects an underlying contrast of semantic and syntactic classes: the verbs with basic stems ending in -ej- belong to the class of inchoative verbs; and those containing -e-, like the -at' verbs (with underlying velarte), belong to the class of stative verbs. Here again, there is a direct correspondence (with singular exceptions), between the semantic - syntactic class of verb and conjugation and stress patterns. We shall proceed to discuss these two groups of verbs separately and in more detail.

4.1. Although the stress in the inchoative verbs is constant, its position in the basic stem is not predictable. Some verbs have stress on the root as in pl'ešív'et' 'grow bald', while others stress









v'ert'ét' and t'erp'ét' belong to the recessive stress pattern (II conj.), while r'ev'ét' exhibits an unusual I conj., end stress, i.e. r'ev+ú, r'ev'+óš, etc. The verb xot'ét' is even more unusual since it not only exhibits a mixture of stress patterns in the present tense, but also a mixture of two conjugations. The singular forms of the present tense show I-B stress; e.g., xoč+ú, xoč+eš, xoč+et; while the plural forms show II-C stress as expected, i.e. xot'ím, xot'ít'e, xot'át. The three recessive type verbs will then be marked [-Acc, +Rec] with an additional diacritic feature noting its conjugational deviation. The verb xot'ét' will have to be specified with additional features in order that the stress pattern can be accounted for: [-Acc, +Rec] for the singular present forms, and [-Acc, -Rec] for the plural present forms.

It is interesting to note that there are several verbs of the -et' type which cannot be easily classified on the basis of either stativeness or inchoativeness. If we take a verb such as bol'ét, which can either mean 'to be ailing' with the basic stem bol'+éj-, or 'ache, hurt', with the basic stem bol+é, it is difficult to attribute an inchoative meaning to the stem bol'+éj- since both these verbs seem closer to the semantic class of statives. If we take the verb zr'et' which can mean either 'to ripen' or 'behold, perceive', no such problem arises since the inchoative has the expected zr'ej- basic stem and the stative zr'ě-; e.g. zr'ěj+eš, zr'ěj+et...etc., and zr'+ú, zr'+íš...etc. Another such verb is p'estr'ét', in which the verb with the basic stem p'estr+éj- can have the meaning 'be distinguished by a diversity of color' or 'become variegated, parti-colored', the former meaning actually describing a certain state rather than a change of state which is a characteristic of an inchoative verb



as in the second meaning. The verb p'estr'ét', whose basic stem is p'estr'é- 'flit before one's eyes, come into sight often', does behave as an actual stative verb. The solution to problems of this type must necessarily be found in additional semantic and syntactic information in the matrices which underlie the lexical item.

There are other stative verbs of the type zud'ét' 'to itch' and zud'ét' 'produce a monotonic ringing sound' which have counterparts in the -it' class of verbs with the same meaning (Akademija Nauk: 1961). Even though these usually are given as belonging to common or popular speech, they are nevertheless unusual since the -it' correlate of an -et' stative verb is normally a transitive, causative verb; e.g. b'el'ét' 'become white' and b'el'ít' 'to whiten or make something white'; kopt'ét' 'give off smoke' kopt'ít' (intrans.) 'smoke', kopt'ít' (trans.) 'to cover with soot, smoke, or cure in smoke'.

4.3 Another large class of verbs are the -nut'-type infinitives. Within this class, a division must be made on the basis of semantic and syntactic features, since they are all structurally identical. Although the great majority of these verbs are perfectives and at the same time semelfactives, there exists a small sub-group within this class which is neither. Structurally identical to the semelfactives, they comprise a group of unprefixes, imperfective inchoatives. The stress pattern within these inchoatives is easily determined, while within the sub-group of semelfactives there is some diversity, the stress location in the semelfactive generally corresponding to that of the basic imperfective.

4.30 The group of inchoatives which denote a prolonged intensification of some state have root stress ([+Acc, -Rec]); e.g., v'ánut'



' fade, wither ', glóxnut' ' abate, subside ', sl'épnut' ' go blind ', slábnut' ' weaken, become weaker '...etc.

There are several verbs, gnut' ' bend ', t'anút' ' pull, draw ', l'nut' ' cling, stick to ', tonút' ' sink ' which have I conjugation, end stress or recessive stress rather than I conj., constant root stress. In addition, the verb t'anút' cannot be classed as either a semelfactive or inchoative, being simply a durative, imperfective verb. The verb gnut' is similar in this respect. The verbs l'nut' and tonút', which are semantically inchoative, do have the existing variants l'ípnut' and tópnut' with the same meanings. Also, it may be noted that historically, in the formation of the verbs t'anút', l'nut', and tonút', a consonant has been lost before the -nut' suffix: t'ag+nút', l'íp+nut', tóp+nut'. We will not investigate the derivation of these verbs in any greater depth but will simply mark these exceptions with the following features:

<u>gnut'</u>	[-Acc, -Rec]	<u>l'nut'</u>	[-Acc, -Rec]
<u>t'anút'</u>	[-Acc, +Rec]	<u>tonút'</u>	[-Acc, +Rec]

In the derivation of several of these inchoatives, a root vowel alternation occurs, either between the root vowel of the basic form and the primary imperfective, or between the root vowel of the primary imperfective and the derived secondary imperfective form. The following are examples:

<u>Base form</u>	<u>Primary impf.</u>	<u>Secondary impf.</u>	<u>Alternation</u>
/gluxój/	/glóxnut'/		u ~ o
/suxój/	/sóxnut'/	/zasyxát'/	u ~ o ~ y
/dóxlij/	/dóxnut'/	/izdyxát'/	o ~ y
/m'órzlij/	/m'órznut'/	/zam'erzát'/	o ~ e





4.31 Within the sub-group of the semelfactives, the stress pattern is either I-A or I-C depending on whether the stress is on the root or on the -nut' class ending in the infinitive. It generally corresponds to the location of stress in the imperfective forms; i.e. the semelfactive will be root stressed if the imperfective is root stressed and end stressed if the imperfective is end stressed. For example, the semelfactive kl'ík<sup>́</sup>nut' has root stress corresponding to root stress in the imperfective, kl'ík<sup>́</sup>at' 'call', and z'evn<sup>́</sup>ut' has ending stress as in the imperfective z'ev<sup>́</sup>at' 'yawn'. However there are exceptions to this general rule.

The group of semelfactives which are entirely predictable are the semelfactives of the imperfective onomatopoeic verbs. They are all characteristically root stressed in correspondence with the root stress of the imperfectives. In connection with this group, it was noted that several of these verbs had statives with stress on the SFS vowel, which in turn was a general characteristic of stative verbs. With some exceptions, this seems to be a general rule operating within the semelfactives of purely stative verbs; i.e. root stress in the semelfactive corresponding to SFS vowel stress in the imperfective stative. The following will serve to illustrate the correlations:

<u>Onomatopoeic (impf.)</u>	<u>Stative (impf.)</u>	<u>Semelfactive</u>
stúkat'	stučát'	stúk <sup>́</sup> nut'
fýrkat'	fyrčát'	fýrk <sup>́</sup> nut'
búrkat'	burčát'	búrk <sup>́</sup> nut'
tr'és <sup>́</sup> kat'	tr'eščát'	tr'és <sup>́</sup> n <sup>́</sup> ut'
br'á <sup>́</sup> kat'	br'enčát' br'acát'	br'ák <sup>́</sup> n <sup>́</sup> ut'
zv'á <sup>́</sup> kat'	zv'en'ét'	zv'ák <sup>́</sup> n <sup>́</sup> ut'
	br'uzžát'	br'úz <sup>́</sup> gn <sup>́</sup> ut'



Stative (impf.)Semelfactive

v'izžát'

v'izgnut'

drožát'

drognut'

kr'ičát'

kr'íknut'

p'iščát'

p'ísknut'

gl'ad'ét'

gl'ánut'

sv'ist'ét'

sv'ístnut'

Exceptions:

dyšát'

dyxnút'

bl'est'ét'  
bl'istat'

bl'esnút'

From the data introduced thus far, a correlation between the semantic and syntactic class of a verb and its stress pattern could be shown for only a small portion of the verbal forms. Only onomatopoeic verbs, stative verbs, and a small sub-group of inchoative verbs showed predictable stress. The remainder of the verbal types show little or no correlation between syntactic features and stress. The semelfactives generally show a stress pattern corresponding to the imperfective form of the verb. This pattern is predictable only when the stress in the basic imperfective is predictable. These semelfactives will then have to be marked as either [+Acc -Rec] for root stress and [-Acc -Rec] for end stress in view of the lack of information available for specification in the lexicon.

Before proceeding to the discussion of the last major class of verbs - the II conjugation -it' verbs - to which the last section of this chapter will be devoted, a few minor groups will be examined. These groups are presented separately more from a derivational point of view than from the stress standpoint. These verbs exhibit



stem features which are not evident in the infinitive forms but which appear in the other finite forms of the paradigm. With few exceptions, the following groups belong to the I conjugation.

4.4 The first group consists of about two dozen monosyllabic and disyllabic stems. The monosyllabics are obligatorily stressed in the infinitive and unstressed in the finite present forms, while the roots of the disyllabics are unstressed in both the infinitive and present tense forms. These verbs can be listed according to stem-final features, which in all cases are consonantal. The first sub-group retains the stem-final consonant throughout the paradigm without change:

n'est'í 'carry'; n'es+ú, n'es'óš, n'es'+ót...etc.,

past'í 'pasture'; pas+ú, pas'+oš ...

tr'ast'í 'shake'; tr'as+ú, tr'as'+óš...

v'ez t'í 'transport'; v'ez+ú, v'ez'+óš...

grýz t' 'gnaw'; gryz+ú, gryz'+óš...

l'éz t' 'crawl'; l'éz+u, l'éz'+eš...

polz t'í 'creep, crawl along'; polz+ú, polz'+oš...

id t'í 'go, proceed'; id+ú, id'+óš...

spas t'í 'save, rescue'; spas+ú, spas'+óš...

These verbs belong to the I conjugation and with the exception of l'éz t' are all end stressed. The verb grýz t', which is obligatorily stressed in the infinitive, loses its stress to the vocalic morphemes of the present tense, imperative, and the present gerund. Although these verbs can be fitted into our classification of accented or unaccented stems and stress in the finite forms of verbs such as gryz t' and l'ez t' can be accounted for by our major stress rules, we will need to add









Similarly for all of the finite forms of gryz t'. Although this rule assigns stress redundantly to monosyllabics, it is also necessary for stress assignment to disyllabics which exhibit the same phenomenon (to be given in a later list). The remainder of the verbs in this group have characteristic consonantal changes before the infinitive ending -t'i, i.e. the stem-final dental and labial obstruents coalesce into s, as noted by Jakobson (p. 160). This rule could be given as follows:

$$\begin{bmatrix} +\text{obst} \\ +\text{diff} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{grv} \\ +\text{strid} \\ -\text{vce} \end{bmatrix} \bigg/ \_\_\_\_\_\_ +t'$$

- gn'es t'í 'oppress', ((gn'et)=t'i); gn'et+ú, gn'et'+óš...  
m'es t'í 'sweep', ((met)=t'i); m'et+ú, m'et'+óš...  
cv'es t'í 'blossom, bloom' ((cv'et)=t'i); cv'et+ú, cv'et'+óš...  
obr'es t'í 'find' ((o+bret)=t'i); obr'et+ú, obr'et'+óš...  
č'es t' 'read' ((čet) t'); čt+ú, ct'+óš...  
br'es t'í 'make one's way' ((br'ed)=t'); br'ed+ú, br'ed'+óš...  
v'es t'í 'lead' ((ved)=t'); v'ed+ú, v'ed'+óš...  
klás t' 'place, lay down' ((klad)=t'); klad+ú, klad'+óš...  
kl'ás t' 'curse,' ((klin)=t'); kl'an+ú, kl'an'+óš...  
krás t' 'steal' ((krad)=t') : krad+ú, krad'+óš...  
pr'ás t' 'spin' ((prad)=t); pr'ad+ú, pr'ad'+óš...  
s'és t' 'sit down' ((s'eNd)=t'); s'ád+u, s'ád'+eš...  
bl'us t'í 'guard' ((bl'ud)=t'i); bl'ud+ú, bl'ud'+óš...  
pás t' 'fall' ((pad)=t'); pad+ú, pad'+óš...  
gr'as t'í 'proceed' ((gr'ad)=t'i); gr'ad+ú, gr'ad'+óš...



gr'es t'i ' row ' ((gr'eb)=t'i); gr'eb+ú, gr'eb'+ós...

skr'es t'i ' scrape, scratch ' ((skr'eb)=t'i); skr'eb+ú, skr'eb'+ós...

Of the above verbs, only two, l'éz t' and s'és t' will be marked with the feature [+Acc, -Rec]. The infinitives with stress on the -t'i ending will be marked [-Acc, -Rec] and will be accounted for by the rules given before.

A group of sixteen monosyllabic, disyllabic, and trisyllabic verbs constitute the next set of verbs possessing characteristic stem-final features. The basic stems of all of these verbs end in a velar consonant k or g. These velars, like the dentals and labials of the preceding group, appear only in the finite forms. The infinitives of these verbs end in č. The basic stems of these verbs are therefore set up with an underlying stem-final velar which with the infinitival suffix -t'i will be finally reduced to -č, although it is not quite clear what this process is which reduces these -kt'i, -gt'i clusters.

The following is a list of these verbs with their underlying representations and stress characteristics:

b'er'éč ' take care of; ((b'er'eg)=t'i); b'er'eg+ú, b'er'ež+ós

vl'éč ' draw, attract ', ((vl'ek)=t'i); vl'ek+ú, vl'eč+ós...

volóč ' drag, draw; ((volok)=t'i); volok+ú, voloč+ós...

ž'éč ' burn '; ((g'ig)=t'i); žg+ú, žž+ós...

l'éč ' lie down ' ((l'eNg)=t'i); l'ag+u, l'áz+eš...

móc ' be able ' ((mog)=t'i); mog+ú, móž+eš

obl'éč ' envelope, invest(with) ' ((o+bl'ek)=t'i); obl'ek+ú  
obl'eč+ós...





p'ěč 'bake' ((p'ek)=t'i) ; p'ek+ú, p'ěč+óš...

pr'en'ebr'ěč 'disregard' ((pr'en'ebr'eg)=t'i) ; pr'en'ebr'eg+ú,  
pr'en'ebr'ež+óš...

zapr'áč 'harness' ((za+pr'eNg)=t'i) = zapr'ag+ú, zapr'až+óš...

obr'eč(s'a) 'be doomed' (((o+br'ek)=t'i)s'a) ' obr'ek+ú+s'.  
obr'eč+óš+s'a...

s'ěč 'flog, lash' ((s'ek)=t'i) ; s'ek+ú, s'ěč+óš...

s t'er'ěč 'guard' ((s t'er'eg)=t'i) ; s t'er'eg+ú, s t'er'ež+óš...

str'íč 'clip, shear' ((str'ig)=t'i) ; str'ig+ú, str'iž+óš...

t'ěč 'flow' ((t'ek)=t'i) ; t'ek+ú, t'ěč+óš...

tolóc 'pound' ((tolk)=t'i) ; tolk+ú, tolč+óš...

For the purposes of stress assignment, the above verbs behave exactly in the same way as the previous group. That is, they have the diacritic features Accented and Recessive assigned as follows:

b'er'ěč [-Acc, -Rec]

Similarly for the verbs vl'ěč, volóc, zěč, obl'ěč, p'ěč, pr'en'ebr'ěč, zapr'áč, obr'eč(s'a), s t'er'ěč, str'íč, t'ěč and tolóc.

The verb l'ěč would have the features [+Acc, - Rec] and stress rule (2) would account for stress in all the forms. The verb móc, however, shows recessive stress in the present tense forms and would be marked [-Acc, +Rec].

Also within the above group of verbs there are several which are considered to be pleophonic forms; e.g., b'er'ěč, s t'er'ěč, tolóc, which are set up as b'ergt'i, st'ergt'i, tolkt'i in the underlying representations. Lightner (1965b:92) gives rules for the derivation of the pleophonic verbs from these underlying representations:



(V:VV) C V L C  $\rightarrow$  1223 where V represents

1 2 3

+vocal
-cons
-tense
-diff

C represents

[+cons]
[-vocal]

L represents

+vocal
+cons

(VV:V)      V      V       $\rightarrow$        $\bar{V}^1$   
               -R     -R     -R                -R

(VL:LV)      V L C       $\rightarrow$  213 where V represents  
                   1 2 3

+vocal
-cons
-diff

In applying these rules to the underlying representation b'ergt'i of the verb b'er'éc<sup>✓</sup>, the full plephonic form is obtained:

BERE<sup>✓</sup>:      bergti  $\rightarrow$  V:VV  $\rightarrow$  beergti  $\rightarrow$  (VV:V<sub>-R</sub>)  
               inapplicable  $\rightarrow$  VL:LV  $\rightarrow$  beregti

For the purposes of stress we shall assume that these rules have operated on the underlying forms before the stress assignment rules apply, i.e. bergti has been converted to the full plephonic form b'er'egt'i and other rules have converted the -g=ti complex to č. Consequently our stress rules will apply to the final form b'er'ec<sup>✓</sup>.

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<sup>1</sup> The morphemes of Russian are broken down into two major groups: [+Slavic] and [-Slavic]. The [+Slavic] ones are in turn broken down into those which are [+Russian] (cf. Lightner (1965b:7)). That is, Russian morphemes will have the features [+Slavic, +Russian], [+Slavic, -Russian] for words of Slavic origin and [-Slavic] for morphemes borrowed from other languages. The above rule for [-R] is necessary since Russian still contains OCS forms such as glas [-R] vs. the Russian



Notice, however, that in order for stress to be properly assigned to such pleophonic verb forms, the second vowel (i.e. the one inserted by the pleophonic rule V:VV) must be specified as [-Acc], i.e. the same as the original root vowel. If, for example, the pleophonic rule were to copy only the phonological features of the root vowel onto the inserted vowel, such forms as

$$\begin{array}{c} b'er'ec \\ [-Acc] \\ [-Rec] \end{array} \quad \text{and} \quad \begin{array}{c} b'er'eg+u \\ [-Acc] \\ [-Rec] \end{array}$$

would result. None of our five rules for stress placement would apply to either of these forms, leaving them both stressless. Specifically, rule P(1), the only one of our rules which assigns stress to vowels which are unspecified for any diacritic features, may not apply to either of these forms because of the restriction involving a morpheme boundary (see p. 56). Notice, however, that even if this restriction on rule P(1) could be dropped, the rule would still assign stress improperly to  $\begin{array}{c} b'er'eg+u \\ [-Acc] \\ [-Rec] \end{array}$  (giving \*b'er'égu) and, similarly, to all of

the other finite forms of the verb. We therefore conclude that such rules as V:VV ("Ø/F rules") must copy all diacritic as well as all phonological features.

Another group of verbs, kolót' 'break, chop, stab', molót' 'grind, mill', have recessive stress and show a pleophony only in the infinitive forms.

kolót'; kol'+ú, kól'+eš, kól'+et, ... etc.

molót'; m'el'+ú, m'él'+eš, m'él'+et ...

---

pleophonic gólos 'voice', in verbs such as vozglas'ít' 'to exclaim, cry' and glava [-R] vs the Russian pleophonic form golová' 'head' in the verb vozglav'it' 'to place oneself at the head (of)', etc. The [+Slavic, -Russian] words have and underlying LV̄ (liquid + tense vowel) while the [+Slavic, +Russian] forms have a VLV structure.





porot' ; por'+ú, por'+eš, por'+et...

We can treat these four verbs in the same way as we did the b'er'éc', etc., pleophonic verbs; i.e. assume that the inserted -o- is specified for the feature [-Acc]. Since all of these verbs show recessive stress, they will be marked as [-Acc,+Rec]; e.g., kol+o=t'.

+Acc	-Acc
-Rec	+Rec

Stress rule P(5) will then assign stress to the infinitive forms while rules P(1),(4) will assign stress to the finite forms. Also, we need not concern ourselves with the el ~ ol alternation in the verb molot', assuming that the rules preceding those for stress assignment have accounted for this alternation in the finite forms. The application of the rules to the verbs discussed in Sec. 4.4 and the derivations of examples for all possible verbal forms discussed in this chapter and in Chapter 3 will be given in Appendix II of this thesis.

4.5 Perhaps the largest and most difficult class of verbs to analyze from the standpoint of stress prediction is the -it' class. To this class belong only a small group of purely verbal roots, with denominals and deadjectivals comprising the bulk of these verbs. Among the two latter groups, the denominal verbs predominate.

Although the verbs in this class belong to the second conjugation, with singular exceptions (e.g., ušib'ít' 'hurt, bruise, I conj., end stress), all three stress patterns are represented; II-A, II-B, and II-C. Of these, the II-B (recessive) verbs are a small group comprised of some eighty-five verbs. These, together with the recessive verbs of other classes, are listed in the Academy of Sciences Grammar (Akad. Nauk SSSR, 1960: 475-477). One of the major



difficulties arising in the analyses of these verbs is the fact that the -i- SFS vowel is never retained in the present forms - a factor which played such an important role in distinguishing the different sub-groups of the other classes analyzed thus far. In the -et' class, for example, the retention or elision of the -e- SFS vowel not only associated the verb with a particular stress pattern but also with a specific semantic - syntactic class. In this class, it is impossible to base any such analyses on the SFS vowel, since it tells us only one thing for certain; namely, that the verb belongs to the second conjugation. A verb with the -it' infinitive ending can be a perfective correlate of some imperfective verb in another class; e.g. stup'ít ~ stupát' 'step'; a determinate correlate of an indeterminate verb in another class - n'est'í nos'ít' 'carry', etc. In addition, a verb like rub'ít' 'hew, chop' can be simply an imperfective durative verb, while others such as žen'ít' 'marry, wed' and kaz n'ít' 'execute, put to death', are dual aspectual.

However, these verbs present no special problem to the classification developed earlier. If the verb is root stressed; e.g., m'ér'it' 'measures', v'ér'it' 'believe', the verb will retain the stress on the same morpheme throughout the paradigm as did other verbs. On the other hand, if the SFS vowel -i- is stressed, the pattern will be either recessive or end stressed without exception. Verbs in the -it' class do not retain the SFS vowel and cannot develop constant stem stress, as, for example, -aj- verbs such as cit+áj=t'. Here is where the major difficulty arises.





In the case of verbs of other classes, the groups could be distinguished by either the retention or the elision of the SFS vowel. If the SFS vowel was dropped, the stem-final features usually gave some clue as to the conjugational class and stress pattern. In the -it' verbs, there are no stem-final characteristics which would distinguish the constant end stressed verbs from the recessive type verbs. Of the approximately eighty-five recessive stress verbs, over seventy have monosyllabic roots with every vowel represented in the roots of these verbs. Moreover, there are verbs like sušít' 'dry' (recessive) and pušít' 'fluff, make fluffy' (end stress), which look alike but have different stress patterns. This difference cannot be attributed to any particular phonological or syntactic feature of these verbs. There are others such as kružít' 'turn, circle' which are acceptable as both recessive and end stressed, as opposed to krušít' 'shatter' which is recessive only.

There also has been virtually nothing done in this group with respect to analyzing the semantic content of these verbs. This undoubtedly would aid in the establishment of stress. In the previous classes, at least some classification of verbs into semantic - syntactic classes has been carried out and in many cases there is a direct correlation between certain semantic - syntactic features and the stress pattern. This cannot be said for the -it' verbs.

In recent studies which have been conducted on this class of verbs (Pirogova, 1963, 1967; Voroncova, 1959; Baxturina, 1966; Red'kin, 1965), many interesting facts have been brought out. For example, of the eighty-five or so verbs which today have recessive stress, Voroncova showed that 35 of these had vacillating stress





at the turn of the century; i.e. both recessive and end stress were acceptable according to dictionaries, usage in literary works, etc., of that period. These verbs, which were originally end stressed, took on recessive stress and this type of stress has become established as the norm. Although this in itself is of linguistic interest, it in no way sheds any light on the reasons for the preference for recessive stress in verbs, except for the fact that ostensibly any verb is potentially capable of reverting to recessive stress.

Red'kin (1965), on the other hand, did a study of a different sort, and one which is of more interest in a synchronic description of the problem of verbal stress. In this study he correlated the stress patterns in denominal and deadjectival -it' verbs with the stress patterns within the paradigms of the nouns and adjectives from which these verbs were derived. These conclusions are enlightening, although somewhat discouraging. Very little direct correlation exists between the stress patterns investigated. Thus, for example, the verbs in -it' showed a direct correlation only when stress in the noun or adjective showed no mobility within their respective paradigms; i.e. stress in the verb was reflected with the retention of stress on the same root or stem morpheme. On the other hand, if stress showed mobility within the nominal paradigm, then predictability of stress in the verb was lost. Although one could safely assume that end stress in the verb was the most general paradigm, root stress was possible even if stress was mobile in the nominal or adjectival paradigm.

In view of the fact that there are no other syntactic or phonological features which would facilitate the marking of these roots



with the diacritic features developed here, we will simply mark them as they are found with no further discussion. Thus there will be four classifications of these verbs:

m'ér'it' 'measure' [+Acc,-Rec]

puš'it' 'fluff, make fluffy' [-Acc,-Rec]

kruš'it' 'shatter' [-Acc,+Rec]

kruž'it' 'turn, circle' [-Acc,  $\pm$ Rec], i.e. [-Acc,-Rec]  
or [-Acc,+Rec]



## CHAPTER V

### CONCLUSIONS

5.0 In this preliminary analysis of Russian verbal stress, we proceeded from the assumption that stress was not an inherent feature of any vowel of any morpheme in the Russian language, but was to be assigned by rules of some kind. In support of this hypothesis, data was introduced which demonstrated the characteristic mobility of Russian stress, even in the case of identical roots which entered into the formation of lexical items of different categories. Within a single category, variation in stress position was demonstrated for different sub-classes of lexical items containing the same basic underlying root. Since such stress behavior suggested that stress could not be predicted in any morpheme on the basis of any phonological properties of the vowels themselves, we proceeded from Chomsky's and Halle's (1968:376) suggestion that certain diacritic features be associated with each morpheme as a whole which would enable the stress rules to locate the single primary stress position in every verbal form derived from that morpheme.

The stress patterns of the various verbal classes were then investigated with the view of establishing certain stress regularities among them. From the data presented, it was shown that such regularities do in fact exist in the conjugational paradigms, even among the most diverse verbal forms. On the basis of these stress regularities, general stress assignment rules were formulated which accounted for the proper stress location in the infinitives and certain finite forms of the conjugational paradigms.





Our next assumption was that these stress assignment rules could be incorporated into the existing phonological theories underlying verbal derivation, with the two processes of derivation and stress assignment being carried out simultaneously. Morris Halle (1963) demonstrated that such rules could in fact be ordered within the transformational cycle of a partial phonological component dealing with verbal derivation. He demonstrated that some stress patterns in the paradigms could be accounted for, provided the application of these rules was limited to verbs which showed regular stress patterns and derivation. The results of this attempted solution will be discussed in the following sections of this chapter.

5.1 We had set out to show that once the initial stress position was assigned to the basic stem (this position of stress in the basic stem corresponding to the position in the infinitive), the stress position in all of the finite forms could be accounted for. That is, there is a direct correlation between stress position in the infinitive and the stress pattern in the finite forms of the paradigm. The basic stem with this initial stress position assigned by some pre-cyclical rule would then be the input to the transformational cycle where the rules would either retain this initial stress position or reassign it to another morpheme. In this manner the cyclical rules would reflect the fact that stress is retained on the same morpheme if the root is stressed or if the SFS vowel which is retained in the finite forms of the conjugational paradigm receives the stress. On the other hand, if the SFS vowel of the basic stem receives this initial stress and this SFS vowel is dropped in the finite forms, then the cyclical rules would reassign the stress



to some <sup>other</sup> morpheme. In this case, a stress shift rule would assign the stress to the desinence, or in certain cases, retract the stress onto the root after the SFS vowel is dropped.

The main obstacle to this analysis was presented by the -ova- verbs, whose derivation produced an ordering paradox within the cycle when we attempted to account for stress assignment in this manner. The problem resulted from Lightner's treatment of the j insertion rule (i.e. the a → j rule). For the present tense forms of verbs such as torgovát', we wanted the a → j rule to apply before the stress shift rule in order to prevent the shift of stress to the desinence. For [-Acc, -Rec] verbs of the type kr'icát', we wanted the opposite ordering; i.e. the stress shift rule would move the stress from the SFS vowel -a- to the next morpheme before this SFS vowel went to j (see pp. 53-55). We did not attempt to resolve this ordering paradox in this thesis, but we did find that we could position our rules after the cyclical rules and account for stress in all of the forms without difficulty. Consequently the rules assigned stress to the individual derived forms which were the output of the transformational cycle.

The result of our final solution - that of assigning stress to the individual forms post-cyclically - makes the disturbing claim, however, that stress in the infinitive is totally unrelated to that of the other finite forms, contrary to our original observations. However, our system for marking the stems with the diacritic features [<sup>+</sup>Accented] and [<sup>+</sup>Recessive] does find considerable empirical support in studies which demonstrate a native speaker's inability to determine the proper stress position in an unfamiliar verbal form without additional information. As we have seen in the discussion of some of the II conjugation -it'





verbs, the choice of either end stress or recessive stress seems to be arbitrary; i.e. either choice is acceptable within the existing stress norms. In others, where this choice is not available, but where either one stress pattern or the other is the accepted norm, there is really no overt basis on which one could without question predict the norm. N.K. Pirogova (1967:17-20) gives some of the results of questionnaires concerning verbal stress conducted in the Faculty of Philology of the Moscow State University. The questionnaires were given to students who were natives of Moscow and who presumably spoke the standard literary language. Of 75 students who were asked to pronounce certain forms of -it' verbs, over 60 gave stress positions which were considered to be contrary to the literary standard. Other surveys on related norms of verbal stress, showed similar deviations from the accepted literary norm. This led Pirogova (p.20) to doubt the legitimacy and advisability of retaining the old stress norms. Our analysis of the problem which marks stems with diacritic features to aid in establishing stress position, in effect makes the claim that stress patterns in Russian are to a great extent memorized facts associated with particular lexical items and consequently does achieve a level of descriptive adequacy in that it reflects a native speaker's linguistic intuition - or tacit competence - about the facts of his own language.

5.2 Despite the level of adequacy achieved by our final solution, our use of diacritic features (apart from a detailed analysis of syntactic and semantic analyses of verb classes and verb phrase structure) presented certain theoretical difficulties.

In our initial analysis we confined the use of the feature [<sup>±</sup> Accented] to the roots of the verbal forms. This presented no problem





when dealing with simple verbal roots. However, the complex derived verbal forms presented a problem in this respect. It was shown that there are certain suffixes (nominalizing, adjectivalizing, etc.) which become part of the verbal stem but which never receive stress in the verbal paradigms. As a result, we had to extend the use of the feature [-Accented] to these suffixes in order to block the assignment of stress to them by our stress rules. This extension of the diacritic feature [-Accented] to certain suffixes created stems which have a mixture of features; i.e. certain stems were said to consist of a root marked with the feature [+Accented] and one or two derivational suffixes with the feature [-Accented]. This presents no problem in itself, since the diacritic features pertain only to the particular morphemes which constitute the complex derived verbal forms.

We did find however, that certain complex stems derived from the same root had to be marked with different diacritic features. If we consider the verbs žel+aj+t' and dobro+žel+aj+tel+stv+o+u+g=t', for example, we find that the former has the features [-Acc, -Rec] associated with its root, but the latter has the features of [+Acc, -Rec] associated with the entire stem žel+aj- which forms the basis of the complex verb. This means that some readjustment rule (Chomsky & Halle, 1968:374) would not only change the diacritic features during the course of derivation of the complex verb but extend these features to all morphemes of the simple stem which were originally unspecified with respect to the diacritic features we have set up. We leave these problems unresolved.

5.3 Finally, we showed that stress and semantic-syntactic verb class were in certain cases closely correlated. We were unable to make use of this fact in our rules for stress assignment, however, for



information of this sort was not available for all classes of verbs which we discussed. We only wish to point out that a more extensive investigation into this area might provide additional insight into the problem under consideration.

5.4 The discussion in the previous sections has attempted to evaluate the preliminary and the final solutions proposed and has completed the objective of this thesis: a preliminary analysis of Russian verbal stress. The stress rules we have proposed and the theoretical problems we have raised should provide some insight into the phenomenon of Russian stress and stimulate further research into this question.



APPENDIX I. LIST OF VERBS WITH CHARACTERISTIC  
STRUCTURAL AND SEMANTIC FEATURES

1. Recessive -AT' Verbs

бормотать	-	'mutter, mumble'
брехать	-	'yelp, bark, lie, tell lies'
вязать	-	'bind, tie up'
глодать	-	'gnaw', also glodáju, glodájes', etc.
гоготать	-	'cackle, roar with laughter'
грохотать	-	'crash, roll, peel'
искать	-	'look, search (for)'
казать	-	'avoid'
клеветать	-	'calumniate, slander'
клокотать	-	'bubble, boil'
лепетать	-	'babble, prattle'
лизать	-	'lick'
лопотать	-	'mutter'
махать	-	'wave, flap'
метать	-	'throw, fling', also same verb 'sew', m'etaju, m'etájes'; etc.
низать	-	'string, thread'
обязать	-	'bind, make incumbent upon'
пахать	-	'plough, till'
писать	-	'write'
плескать	-	'splash, lap', also colloq. pl'eskaju, pleskajes, etc.
плясать	-	'dance'
полоскать	-	'rinse, flap, flop', also colloq. poloskaju, etc.





роко́тать	- 'roar, murmur'
ропта́ть	- 'murmur, grumble'
свиста́ть	- 'whistle', also a stative form sv'ist'et' with same meaning
скака́ть	- 'jump'
скрежета́ть	- 'grind, gnash one's teeth'
стла́ть (стелі́ть)	- 'spread'
стона́ть	- 'moan, groan', also 1 sg. stonáju
стрекота́ть	- 'chirr'
теса́ть	- 'cut, hew, trim'
топта́ть	- 'trample'
трепа́ть	- 'tousle, flutter'
трепета́ть	- 'tremble, quiver, flutter'
хлеста́ть	- 'lash, whip'
хлопота́ть	- 'bustle about, (take) trouble'
хохота́ть	- 'laugh (loud/boisterously)'
шепта́ть	- 'whisper, (emit light sounds, rustle)'
цебета́ть	- 'chirp, chatter'
чекота́ть	- 'chirp, chatter, (relates to the songs of some birds, e.g., magpie)'
щипа́ть	- 'pinch, nip' also colloq. šč'ipáju, šč'ipájes and šč'íp'es
чеса́ть	- 'comb, card'
Exceptions	
алка́ть	- 'crave, hunger (for)'
колеба́ть	- 'vaccillate'
колыха́ть	- 'sway', also colloq. kolyháju, etc.
страда́ть	- 'suffer (from), also obsolete, strážḍu, strážḍes



2. Verbs of II-C Conjugation with C<sub>p</sub> + -AT'

бежа́ть	- 'run' < ((beg+ě̇)+t') < <u>b'égat'</u>
бренча́ть	- 'jingle' < ((br'eNk+ě̇)+t')
брюзжа́ть	- 'grumble' < ((br'uzg+ě̇)+t') < <u>br'uzga</u> 'grumbler'
бурча́ть	- 'mutter, grumble' < ((burk+ě̇)+t') < <u>búrka</u> t', <u>búrknut'</u>
вереща́ть	- 'chirp, squeal'
визжа́ть	- 'squeal, screech' < ((v'izg+ě̇)+t') < v'izg 'a squeal'
ворча́ть	- 'grumble, growl'
держа́ть*	- 'hold'
дребезжа́ть	- 'rattle, jingle' < ((dr'eb'ezg+ě̇)+t') < dr'eb'ezg 'sound of breaking glass, etc.'
дрожа́ть	- 'shiver, tremble' < ((drog+ě̇)+t') < <u>drógnut'</u> 'shiver'
дыша́ть	- 'breathe' < ((dux+ě̇)+t') < dux 'breath'
жужжа́ть	- 'hum, buzz, drone'
журча́ть	- 'babble, murmur'
звуча́ть	- 'sound, ring, resound' < ((zvuk+ě̇)+t') < zvuk 'sound'
крича́ть	- 'shout' < ((kr'ik+ě̇)+t') < kr'ik 'a shout'
лежа́ть	- 'lie' < ((leg+ě̇)+t') < l'ec < <u>l'egt'</u> i
молча́ть	- 'keep silent' < ((mol+ě̇)+t') < <u>mólknut'</u> 'become silent'
мча́ть	- 'rush, whirl along'
мыча́ть	- 'moo, bellow' < *((myk+ě̇)+t')
пища́ть	- 'squeak' < ((p'isk+ě̇)+t') < p'isk 'a peep, squeak'
рыча́ть	- 'growl, snarl, roar' < ((ryk+ě̇)+t') < <u>ryká</u> t' 'roar'
слы́шать*	- 'hear' < ((slux+ě̇)+t') < slux 'hearing'
стуча́ть	- 'knock' < ((stuk+ě̇)+t') < stuk 'a knock'
торча́ть	- 'protrude, stick out'
треща́ть	- 'crack, crackle' < ((tr'esk+ě̇)+t') < tr'esk 'crash, crackle'



урча́ть	-	grumble, rumble'
фырча́ть	-	'snort, sniff' < ((fyrk+ě)+t') < fýrk at' 'snort'
шурша́ть	-	'rustle', perhaps from šórox 'a rustle'
стоя́ть	-	'stand' < *((stoj+ě)+t')
боя́ться	-	'to fear' < *((boj+ě)+t'sa)

## 3. Onomatopoeic Verbs

агу́кать	-	'exclaim, shout "ahoo" '
ау́кать      ау́кнуть	-	'exclaim "ow" '
аха́ть      а́хнуть	-	'exclaim "ax" '
бря́кать      бря́кнуть      бряца́ть	-	'clang, clatter'
бу́лькать      бу́лькнуть	-	'gurgle'
бу́ркать      бу́ркнуть      бурча́ть*	-	'mutter, rumble'
бу́хать      бу́хнуть	-	'thump, thunder, blurt out'
га́ркать      га́ркнуть	-	'shout, bark at somebody'
ги́кать      ги́кнуть	-	'whoop'
гро́хать      гро́хнуть      грохота́ть*	-	'drop down with a crash'
громыха́ть      громыхну́ть	-	'rumble, lumber'
да́кать      да́кнуть	-	'to agree with somebody by saying "da, da" '
ёкать      ёкнуть	-	'produce sounds as in hiccuping'
звя́кать      звя́кнуть	-	'tinkle'
ка́ркать      ка́ркнуть	-	'croak, caw'
ква́кать      ква́кнуть	-	'croak as a frog'
кря́кать      кря́кнуть	-	'quack, as a duck; grunt (as a man)'





лязгать	лязгнуть		-	'clang with'
мяукать	мяукнуть		-	'mew, waul, miaul'
нүкать			-	'say "nu" repeatedly'
охать	охнуть		-	'sigh, exclaim "ox"'
плюхать	плюхнуть		-	'fall noisily, usually into something wet'
плескать	плеснуть		-	'splash, lap'
рыкать	рыкнуть	рычать*	-	'roar, as a lion'
рывать	рвать		-	'bellow, roar at'
стучать	стучнуть	стучать*	-	'knock, rap, clatter'
топать	топнуть		-	'stamp (with feet)'
трахать	трахнуть		-	'crash, bang'
трескать	треснуть	трещать*	-	'crack, crackle'
тукать	тукнуть		-	'knock, strike, hit'
тыкать			-	'be on familiar terms with someone, i.e. thee'
тукать	тукнуть		-	'strike, produce noise or a sound'
тявкать	тявкнуть		-	'yelp, yap (as a dog or fox)'
тыпать	тыпнуть		-	'hit, chop, hit someone's hand'
ухать	ухнуть		-	'exclaim "ux", express some sort of emotion'
фыкать	фыкнуть		-	'huff'
фыркать	фыркнуть	фырчать*	-	'snort, sniff'
хапать	хапнуть		-	'grab, seize, "xap", used to denote snatching, grabbing'
гоготать*			-	'cackle, roar with laughter'
грохотать*			-	'crash, peel, roll'
клокотать*			-	'bubble, boil noisily'



лепетáть *		- 'babble, prattle (also, light sound of rustling, leaves etc.)'	
лопотáть *		- 'mutter, rustle, flutter quietly'	
полоскáть *		- 'rinse, gargle (also, flap, flutter in the breeze, as a flag or sail)'	
рокотáть *		- 'roar, mutter, rumble'	
стрекотáть *		- 'chirr, crackle'	
хохотáть *		- 'laugh (loud/boisterously)'	
шептáть *		- 'whisper, (emit light sounds, as rustling)'	
щебетáть *		- 'chirp, chatter'	
щекотáть *		- 'as above, (relates to songs of some birds, e.g. magpie)'	
хáркать	хáркнуть	- 'spit, expectorate noisily'	
хихíкать	хихíкнуть	- 'titter, giggle, snigger'	
хло́пать	хло́пнуть	- 'flap, slap someone on the back'	
хлю́пать	хлю́пнуть	- 'squelch (through mud)'	
хрúпать	хрúпнуть	- 'produce, emit a dry crackling'	
хрúстать	хрúстнуть	хрустéть *	- 'crunch, crackle'
хрю́кать	хрю́кнуть		- 'grunt, grunt as a swine'
хря́пать			- 'eat greedily, chewing loudly'
хря́пнуть			- 'break something with a crackle' (not pf. of above verb)
ца́пать	ца́пнуть		- 'snatch, seize with teeth or claws'
царáпать	царáпнуть		- 'scratch, seize with nails or claws'
цы́кать	цы́кнуть		- 'produce whistling sounds'
ча́вкать	ча́вкнуть		- 'champ'
чивíкать	чивíкнуть		- 'twitter, chirp'



чи́кать	чи́кнуть	- 'produce short repeated sounds, usually a mechanism'
чили́кать	чили́кнуть	- 'chirp, twitter'
чири́кать	чири́кнуть	- 'chirp, twitter'
чиха́ть*	чихну́ть*	- 'sneeze'
чмо́кать	чмо́кнуть	- 'smack one's lips'
шара́хать	шара́хнуть	- 'to strike forcefully and noisily, throw, etc.'
ша́ркать	ша́ркнуть	- 'scrape, shuffle, (one's feet, for example)'
шлёпать	шлёпнуть	- 'slap, smack'
шмя́кать	шмя́кнуть	- 'drop, throw, produce a dull, slapping sound'
ши́кать	ши́кнуть	- 'hiss'
щёлкать	щёлкнуть	- 'click, crack, smack'

4. Denominal and Deadjectival Verbs in -N'ICAT' (-ICAT)

азáртничать	азáртный
акробáтничать	акробáт
алты́нничать	алты́н
аму́рничать	аму́рный
ба́бничать	ба́бник
баклу́шничать	баклу́ши
балага́нничать	балага́нный
балага́нить	
балбе́сничать	балбе́с
баля́сничать	баля́сы
бары́шничать	бары́шник
башма́чничать	башма́чник
безбо́жничать	безбо́жник
безде́льничать	безде́льник





беззако́нничать	беззако́ник
безобра́зничать	безобра́зник
беспризо́рничать	беспризо́рник
беспу́тничать	беспу́тник
беспу́тсвовать	беспу́тсво
бессты́дничать	бессты́дник
богоху́льничать	богоху́льник
бо́ртничать	бо́ртник
боча́рничать	боча́рник
боча́рить	
бра́жничать	бра́жник
бродя́жничать	бродя́га
бродя́жить	
ва́жничать	ва́жный
великодúшничать	великодúшный
верхогля́дничать	верхогля́д
ве́треничать	ве́треник
ветропра́шничать	
взя́точничать	взя́точник
во́льничать	во́льно
высокоме́рничать	высокоме́рный
га́ерничать	га́ер
га́ерствовать	
гениа́льничать	гениа́льный
грехово́дничать	грехово́дник
грима́сничать	грима́сник
двурúшничать	двурúшник
дебоши́рничать	дебоши́р
дебоши́рить	
дебоши́рствовать	
дебóшничать	дебóш



делика́тничать	делика́тный	
домо́вничать	домо́вница	
ёрни́чать	ёрни́к	
ехи́дничать	ехи́дный	
жа́дничать	жа́дный	
жанти́льничать	жанти́льный	
жема́нничать	жема́нный	
жи́льничать		
жу́льничать	жу́лик	
зате́йничать	зате́я	
злое́хидничать	злое́хидный	
интерё́сничать	интерё́сный	
инти́мничать	инти́мный	
и́скренничать	и́скренный	
испо́льничать	испо́льный	
каботажни́чать	каботажни́к	
ка́верзничать	ка́верзник	ка́верза
капри́зничать	капри́зник	капри́зный
кля́узничать	кля́узник	кля́уза
кнутобо́йничать	кнутобо́й	
кофе́йничать	кофе́й "кофе"	
крамо́льничать	крамо́льник	
криводу́шничать	криводу́шный	
крю́чничать	крю́чник	
куста́рничать	куста́рный	
куха́рничать	куха́рка	
лаке́йничать	лаке́й	



лентя́йничать	лентя́й	
либерáльничать	либерáл	
лизоблѹ́дничать	лизоблѹ́д	
лимóнничать		
лицемѣ́рничать	лицемѣ́рный	лицемѣ́рие
лоботря́сничать	лоботря́с	
ловелáсничать	ловелáс	
ло́дырничать	ло́дырь	
любезничать	любезник	
ля́сничать	ля́сы	
магары́чничать	магары́ч	
маёвничать	маёвка	
мазу́рничать	мазу́рик	
малоду́шничать	малоду́шный	
малоду́шествовать	малоду́шество	
маля́рничать	маля́р	
мане́рничать	мане́рный	мане́ра
мародѣ́рничать	мародѣ́р	
мародѣ́рствовать	мародѣ́рство	
ме́льничать	ме́льник	
ме́стничать	ме́стничество	
минда́льничать	минда́льный	
мо́дничать	мо́дник	
моше́нничать	моше́нник	
мукомóльничать	мукомóл	
нае́здничать	нае́зд	
наивничать	наивный	
насме́шничать	насме́шник	





нау́шничать	нау́шник	
наха́льничать	наха́л	наха́льный
небре́жничать	небре́жный	
невё́жничать	невё́жа	
не́рвничать	не́рвный	
низкопокло́нничать	низкопокло́нник	
обезья́нничать	обезья́на	
обезья́нить		
огоро́дничать	огоро́дник	
озорнича́ть	озорни́к	
оригина́льничать	оригина́льный	
осторо́жничать	осторо́жный	осторо́жность
открове́нничать	открове́нный	открове́нность
официа́льничать	официа́льный	официа́льность
па́костничать	па́костник	па́костный
пало́мничать	пало́мник	
парази́тничать	парази́т	
паску́дничать	паску́дник	
пая́сничать	пая́ц	
плóтничать	плóтник	
пова́рничать	по́вар	
пове́сничать	пове́са	
пово́льничать		
подви́жничать	подви́жник	
подво́дничать	подво́дник	
подобостра́стничать	подобостра́стный	подобостра́стие
подря́дничать	подря́дник	



подхали́мничать	подхали́м
подхалю́зничать	
по́лдничать	по́лдни́к
поло́вничать	
полоте́рничать	полоте́р
полуно́чничать	полуно́чник
попроша́йничать	попроша́йка

5. Inchoative -NUT' Verbs

бле́кнуть	-	'fade'
вя́нуть	-	'fade, droop, wither'
га́снуть	-	'to go out'
гло́хнуть	-	'to die away, abate, subside'
жу́хнуть	-	'lose brightness'
го́ркнуть	-	'turn, become better'
до́хнуть	-	'to die'
со́хнуть	-	'to grow dry'
ти́хнуть	-	'become quieter, weaker'
ту́хнуть	-	'go out, die out'
ки́снуть	-	'turn sour'
кре́пнуть	-	'become stronger'
ли́пнуть	-	'to stick to'
ме́рзнуть	-	'to freeze, feel cold'
ме́ркнуть	-	'grow dark, fade'
мо́кнуть	-	'become wet'
мо́лкнуть	-	'become silent'
мя́кнуть	-	'grow pulpy, flabby'



сты́нуть	-	'become cold'
пу́хнуть	-	'to swell'
сий́нуть	-	'become hoarse, husky'
сла́бнуть	-	'to weaker (same as слабеть)'
сле́пнуть	-	'become blind'
хри́пнуть	-	'become, get hoarse'
ги́бнуть	-	'perish, lose one's life'
ча́хнуть	-	'to wither'
те́рпнуть	-	'to become numb'
ту́скнуть	-	'to grow dim (same as тусклеть)'





## APPENDIX II. APPLICATION OF RULES TO VERBAL FORMS DISCUSSED IN THE THESIS

### 1. SUMMARY OF RULES

$$P(1) \quad V \rightarrow [+stress] \quad / \quad \begin{bmatrix} V \\ -Acc \end{bmatrix} \quad C_0 + C_0 \quad \underline{\quad}$$

Where V is the first vowel of the word not marked for features of accentedness.

$$P(2) \quad V \rightarrow [+stress] \quad / \quad \begin{bmatrix} \overline{\quad} \\ +Acc \end{bmatrix} \quad C_0 +$$

$$P(3) \quad V \rightarrow [+stress] \quad / \quad \#C_0 \quad \begin{bmatrix} \overline{\quad} \\ +Acc \\ +Rec \end{bmatrix}$$

$$P(4) \quad V \rightarrow [+stress] \quad / \quad \begin{bmatrix} \overline{\quad} \\ -Acc \\ +Rec \end{bmatrix} \quad C_0 = C_0VC$$

$$P(5) \quad V \rightarrow [+stress] \quad / \quad \begin{bmatrix} \overline{\quad} \\ -Acc \end{bmatrix} \quad C_1 \#$$

### 2. Examples:

inf. rézat' 'cut' [+Acc, -Rec]: (rez+a=t') → P(1) → inapplicable →  
P(2) → (réz+a=t') → P(3), (4), (5) → inapplicable → rézat'

1 sg. réžu: (rež=u) → P(1) → inapplicable → P(2) → (réž=u) →  
P(3), (4), (5) → inapplicable → réžu

sg. imp. rež: (rež=i) → P(1) → inapplicable → P(2) (réž=i) →  
P(3), (4), (5) → inapplicable → vowel reduction → réž

inf. t'er'át' 'lose, shed' [-Acc, -Rec]: (t'er'+at') → P(1) →  
(t'er'+á=t') → all other rules inapplicable → t'er'át'

1 sg. t'er'áju: (t'er'+aj=u) → P(1) (t'er'+áj+u) → all other rules  
inapplicable → t'er'áju



3 sg. t'er'ájet: (t'er'+aj=e+t) → P(1) → (t'er'+áj=e+t) → all other rules inapplicable → t'er'ájet

sg. imp. t'er'áj: (t'er'+aj=i) → P(1) → (t'er'+áj=i) → all other rules inapplicable → (i:∅) → (t'er'+áj=) → t'er'áj

pres. gerund t'er'ája: (t'er'+aj=a) → P(1) → (t'er'+áj=a) → all other rules inapplicable → t'erája

inf. p'isát' 'write' [-Acc, +Rec]: (p'is+a=t') → P(1) → (p'is+á=t') → all other rules inapplicable → p'isát'

1 sg. p'isú: (p'is=u) → P(1) → (p'is=ú) → all other other rules inapplicable → p'isú

3 sg. p'íšeš: (p'is=e+š) → P(1) → (p'is=ě+š) → P(2), (3) → inapplicable → P(4) → (p'is=e+š) → P(5) → inapplicable → p'íšeš

sg. imp. p'isí: (p'is=i) → P(1) → (p'is=í) → all other rules inapplicable → p'isí

inf. molčát' 'be silent' [-Acc, -Rec]: (molč+a=t') → P(1) → (molč+á=t') → all other rules inapplicable → molčát'

1 sg. molčú: (molč=u) → P(1) → (molč=ú) → all other rules inapplicable → molčú

3 sg. molčít: (molč=i+t) → P(1) → (molč=i+t) → all other rules inapplicable → molčít

sg. imp. molčí: (molč=i) → P(1) → (molč=í) → all other rules inapplicable → molčí

pres. gerund molčá: (molč=a) → P(1) → (molč=á) → all other rules inapplicable → molčá



inf. vz'atocn'icat' 'take bribes' [+Acc, +Rec]: (vz'atoč+n'ič+a=t') →

P(1) → (vz'atoč+n'ič+á=t') → P(2) → (vz'atóč+n'ič+a=t') →

P(3) → (vz'átoč+n'ič+a=t') → P(4), (5) → inapplicable →

vz'átočn'icat'

1 sg. vz'átočn'ičaju: (vz'atoč+n'ič+aj=u) → P(1) → (vz'atoč+n'ič+áj=u) →

P(2) → (vz'atóč+n'ič+aj=u) → P(3) → (vz'átoč+n'ič+aj=u) →

P(4), (5) → inapplicable → vz'átočn'ičaju

sg. imp. vz'átočn'ičaj: (vz'atoč+n'ič+aj=i) → P(1) → (vz'atoč+n'ič+áj=i) →

p(2) → (vz'atóč+n'ič+aj=i) → P(3) → (vz'átoč+n'ič+aj=i) →

P(4), (5) → inapplicable → (i:φ) → (vz'átoč+n'ič+aj) →

vz'átočn'ičaj

inf. buševát' 'rage' [-Acc, -Rec]: (buš+e+v+a=t') → P(1) →

(buš+e+v+á=t') → all other rules inapplicable →

buševát'

1 sg. bušúju: (buš+uj=u) → P(1) → (buš+új=u) → all other rules

inapplicable → bušúju

3 sg. bušújet: (buš+uj=e+t) → P(1) → (buš+új=e+t) → all other rules

inapplicable → bušújet

sg. imp. bušúj: (buš+uj=i) → P(1) → (buš+új=i) → P(2), (3), (4), (5) →

inapplicable → (i:φ) → (buš+új) → bušúj

pres. gerund bušúja: (buš+uj=a) → P(1) → (buš+új=a) → all other rules

inapplicable → bušúja

inf. šum'ét' 'be noisy, make noise' [-Acc, +Rec]: (šum'+e=t') →

P(1) → (šum'+é=t') → all other rules inapplicable → šum'ét'

1 sg. šuml'ú: (šuml'=u) → P(1) → (šuml'=ú) → all other rules

inapplicable → šuml'ú





3 sg. šum'ít: ( $\text{šum}'=i+t$ )  $\rightarrow$  P(1)  $\rightarrow$  ( $\text{šum}'=\acute{i}+t$ )  $\rightarrow$  all other rules

inapplicable  $\rightarrow$  šum'ít

sg. imp. šum'í: ( $\text{šum}'=\acute{i}$ )  $\rightarrow$  P(1)  $\rightarrow$  ( $\text{šum}'=\acute{i}$ )  $\rightarrow$  all other rules

inapplicable  $\rightarrow$  šum'í

pres. gerund šum'á: ( $\text{šum}'=a$ )  $\rightarrow$  P(1)  $\rightarrow$  ( $\text{šum}'=\acute{a}$ ) all other

rules inapplicable  $\rightarrow$  šum'á

inf. klás't' 'place, lay down' [-Acc, -Rec]: ( $\text{klad}=t'$ )  $\rightarrow$  P(1), (2),

(3), (4)  $\rightarrow$  inapplicable  $\rightarrow$  P(5)  $\rightarrow$  ( $\text{klád}=t'$ )  $\rightarrow$  (d:s)  $\rightarrow$

( $\text{klás}=t'$ )  $\rightarrow$  (s:s')  $\rightarrow$  ( $\text{klás}'=t'$ )  $\rightarrow$

klás't'

1 sg. kladú: ( $\text{klad}=u$ )  $\rightarrow$  P(1)  $\rightarrow$  ( $\text{klad}=\acute{u}$ )  $\rightarrow$  all other rules

inapplicable  $\rightarrow$  kladú

3 sg. klad'ót: ( $\text{klad}'=o+t$ )  $\rightarrow$  P(1)  $\rightarrow$  ( $\text{klad}'=\acute{o}+t$ )  $\rightarrow$  all other rules

inapplicable  $\rightarrow$  klad'ót

sg. imp. klad'í: ( $\text{klad}'=i$ )  $\rightarrow$  P(1)  $\rightarrow$  ( $\text{klad}'=\acute{i}$ )  $\rightarrow$  all other rules

inapplicable  $\rightarrow$  klad'í

pres. gerund klad'á: ( $\text{klad}'=a$ )  $\rightarrow$  P(1)  $\rightarrow$  ( $\text{klad}'=\acute{a}$ )  $\rightarrow$  all other rules

inapplicable  $\rightarrow$  klad'á

inf. l'ez't' 'crawl' [+Acc, -Rec]: ( $\text{l'ez}=t'i$ )  $\rightarrow$  P(1)  $\rightarrow$  inapplicable  $\rightarrow$

P(2)  $\rightarrow$  ( $\text{l'éz}=t'i$ )  $\rightarrow$  all other rules inapplicable  $\rightarrow$

(z:z')  $\rightarrow$  ( $\text{l'éz}'=t'i$ )  $\rightarrow$  (i:∅)  $\rightarrow$  ( $\text{l'ez}'=t'$ )  $\rightarrow$  l'éz't'

1 sg. l'ézu: ( $\text{l'ez}=u$ )  $\rightarrow$  P(1)  $\rightarrow$  inapplicable  $\rightarrow$  P(2)  $\rightarrow$  ( $\text{l'éz}=u$ )  $\rightarrow$

all other rules inapplicable  $\rightarrow$  l'ézu

3 sg. l'éz'eš: ( $\text{l'ez}'=e+\acute{s}$ )  $\rightarrow$  P(1)  $\rightarrow$  inapplicable  $\rightarrow$  P(2)  $\rightarrow$  ( $\text{l'éz}'=e+\acute{s}$ )  $\rightarrow$

all other rules inapplicable  $\rightarrow$  l'éz'eš



sg. imp. l'éz': (l'ez'=i) → P(1) → inapplicable → P(2) → (l'éz'=i) →  
all other rules inapplicable → (i:∅) → (l'éz') → l'ez'

inf. n'es't'i 'carry' [-Acc, -Rec]: (n'es=t'i) → P(1) → (n'es=t'í) →  
all other rules inapplicable → (s:s') → (n'es=t'í) →  
n'es't'í

1 sg. n'esú: (n'es=u) → P(1) → (n'es=ú) → all other rules inapplicable →  
n'esú

3 sg. n'es'ót: (n'es'=o+t) → P(1) → (n'es'=ó+t) → all other rules  
inapplicable → n'es'ót

sg. imp. n'es'í: (n'es'=i) → P(1) → (n'es'=í) → all other rules  
inapplicable → n'es'í

pres. gerund n'es'á: (n'es'=a) → P(1) → (n'es'=á) → all other rules  
inapplicable → n'es'á

inf. b'er'eč 'take care of' [-Acc, -Rec]: (b'er'eč) → P(1), (2), (3),  
(4) → inapplicable → P(5) → (b'er'ěč) → b'er'ěč

1 sg. b'er'egú: (b'er'eg=u) → P(1) → (b'er'eg=ú) → all other rules  
inapplicable → b'er'egú

3 sg. b'er'ežoš: (b'er'ež=o+š) → P(1) → (b'er'ež=ó+š) → all other rules  
inapplicable → b'er'ežoš

sg. imp. b'er'eg'í: (b'er'eg'=i) → P(1) → (b'er'eg'=í) → all other  
rules inapplicable → b'er'eg'í

inf. kolot' 'stab, break' [-Acc, +Rec]: (kol+o=t') → P(1), (2), (3),  
(4) → inapplicable → P(5) → (kol+ó=t') → kolót'

1 sg. kol'ú: (kol'=u) → P(1) → (kol'=ú) → all other rules  
inapplicable → kol'ú



3 sg. kól'et: (kol'=e+t) → P(1) → (kol'=é+t) → P(2), (3) →  
 inapplicable → P(4) → (kól'=e+t) → P(5) →  
 inapplicable → kól'et

sg. imp. kol'í: (kol'=i) → P(1) → (kol'=í) → all other rules  
 inapplicable → kol'í

inf. kružít' 'turn, circle' [-Acc, ±Rec]: (kruž=i+t') → P(1) →  
 (kruž=i+t') → all other rules inapplicable → kružít'

1 sg. kružú: (kruž=u) → P(1) → (kruž=ú) → all other rules  
 inapplicable → kružú

3 sg. krúžit: (kruž=i+t) → P(1) → (kruž=í+t) → P(2), (3) →  
 inapplicable → P(4) → (krúž=i+t) → P(5) →  
 inapplicable → krúžit

3 sg. kružít (alternate form): (kruž=i+t) → P(1) → (kruž=í+t) →  
 all other rules inapplicable → kružít

sg. imp kruží: (kruž=i) → P(1) → (kruž=í) → all other rules  
 inapplicable → kruží





## BIBLIOGRAPHY

- Akademija Nauk SSSR, (1957). Slovar' russkogo jazyka, Institut jazykoznanija, Gos-izdat. inostrannyx i nacional'nyx slovarej, tom I, Moskva.
- 
- (1958). Slovar' russkogo jazyka, Institut russkogo jazyka, Gos-izdat. inostrannyx i nacional'nyx slovarej, tom II, Moskva.
- 
- (1959). Slovar' russkogo jazyka, Institut russkogo jazyka, Gos-izdat. inostrannyx i nacional'nyx slovarej, tom III, Moskva.
- 
- (1960). Grammatika russkogo jazyka (Fonetika i morfologija), Izd-vo Akademii Nauk SSSR, tom I, Moskva.
- 
- (1960). Russkoe literaturnoe proiznošenie i udarenie (Slovar'-spravočnik), R.I. Avanesov i S.I. Ožegov, red., Gos-izdat. inostrannyx i nacional'nyx slovarej, Moskva.
- 
- (1961). Slovar' russkogo jazyka, Institut russkogo jazyka, Gos-izdat. inostrannyx i nacional'nyx slovarej, Moskva.
- 
- Baxturina, R.V. (1966). "Značenie i obrazovanie otymennyx glagolov s sufiksom -Ø-//-i-(t')", Razvitie slovoobrazovanija sovremennogo russkogo jazyka, Akademija Nauk SSSR, Institut russkogo jazyka, Izd-vo "Nauka", Moskva, pp. 74-112.
- 
- (1966). "Morfologičeskie uslovija obrazovanija otymennyx glagolov s sufiksom -Ø-//-i-(t')", Razvitie slovoobrazovanija sovremennogo russkogo jazyka, Akademija Nauk SSSR, Institut russkogo jazyka, Izd-vo "Nauka", Moskva, pp. 113-126.
- 
- Bielfeldt, H.H. von. (1958). Rückläufiges Wörterbuch der russischen Sprache der Gegenwart, Akademie-Verlag- Berlin.
- 
- Browne, E.W. and J.D. McCawley (1965). "Srpskohrvatski akcenat, "Zbornik matice srpske za filologija i lingvistiku, Novi Sad, Yugoslavia, 8. pp. 147-151.
- 
- Chomsky, Noam and Morris Halle (1968). The Sound Pattern of English, Harper & Row, New York, Evanston and London.



- Darden, Bill J. (1967). "The Expression of Morphological Redundancy in Generative Grammar (An Example from Russian Accent)", The Chicago Journal of Linguistics, Vol. 1, No. 1, Oct. 1967, University Microfilm Inc., Ann Arbor, Michigan, pp. 85-102.
- Daum, E. and W. Schenk (1963). Die russischen Verben, Veb Verlag Enzyklopädie, Leipzig.
- Halle, Morris (1961). "Note on Cyclically Ordered Rules in the Russian Conjugation", Quarterly Progress Report of the Research Laboratory of Electronics, Massachusetts Institute of Technology, No. 63, pp. 149-155.
- \_\_\_\_\_ (1963). "O pravilax russkogo sprjaženija", American Contributions to the Fifth International Congress of Slavists, The Hague, Mouton & Co., pp. 113-132.
- Harms, Robert T. (1968). Introduction to Phonological Theory, Prentice - Hall Inc., Englewood Cliffs, New Jersey.
- Heeschen, C. (1967). "Lithuanian Morphophonemics", Quarterly Progress Report of the Research Laboratory of Electronics, Massachusetts Institute of Technology, No. 85, pp. 284-296.
- Jakobson, Roman (1948). "Russian Conjugation", Word 4, pp. 155-167.
- Kiparsky, Paul (1968). "How Abstract is Phonology", (Unpublished manuscript), Massachusetts Institute of Technology, June.
- Kurylowicz, Jerzy (1946). "Sistema russkogo udarenija", Naukovi zapysky L'vivs'koho Deržavnoho Universyteta im. Iv. Franka, Serija filolohična, tom III, Vypusk 2, pp. 75-84.
- Kuznecov, P.S. (1958). "O povedenii sonantov na granice osnov glagolov III i IV klassov v slavjanskix jazykax", Slavjanskaja filologija, IV meždunarodnij sjezd slavistov, Sbornik statej, tom III, Izd-vo Akademii Nauk SSSR, Moskva, pp. 5-37.
- Lightner, Theodore (1965a). "O cikličeskix pravilax v russkom sprjaženii", Voprosy jazykoznanija, No. 2, 1965, pp. 45-54.
- \_\_\_\_\_ (1965b). "Segmental Phonology of Modern Standard Russian", (Unpublished Doctoral dissertation), Massachusetts Institute of Technology.
- \_\_\_\_\_ (1967). "On the Phonology of Russian Conjugation", Linguistics, The Hague, Mouton & Co., September 1967, No. 35, pp. 35-55.





- Maslov, Ju. S. (1963). Morfologija glagol'nogo vida v sovremennom bolgarskom literaturnom jazyke, Izd-vo Akademii Nauk SSSR, Moskva - Leningrad.
- Matveeva, N.A. (1967). "Udarenie v glagolax v sovremennom russkom jazyke", Russkij jazyk za rubežom, Izd-vo Moskovskogo Gosudarstvennogo Universiteta, No. 1, Moskva, pp. 42-49.
- McCawley, J.D. (1965). The Accentual System of Modern Standard Japanese (Unpublished Doctoral dissertation) Massachusetts Institute of Technology Libraries Microfilm, Massachusetts Institute of Technology .
- Olexnovič, M. (1967). "K voprosu o sušnos'ti kolebanij udarenija v russkom jazyke", Filologičeskie Nauki, Naučnye doklady vysšoj školy, Izd-vo "Vysšaja škola", Moskva, No. 4(40), pp. 37-46.
- Pirogova, L.I. and S.I. Makarova ( ). Conjugation of Russian Verbs, Progress Publishers, Moscow.
- Pirogova, N.K. (1959). "K voprosu ob akcentologičeskom zakone A.A. Šaxmatova", Voprosy istorii russkogo jazyka, pod red. profesora P.S. Kuznecova, Kafedra russkogo jazyka filolog. fakul'teta MGU, Izd-vo MGU, Moskva, pp. 158-182.
- \_\_\_\_\_ (1963). "Akcentologičeskie processy v sisteme glagolov s tematičeskom -i-", Slavjanskaja filologija, V meždunarodnyj sjezd slavistov v Sofii, Izd-vo Moskovskogo Universiteta, Vypusk 5, pp. 85-104.
- \_\_\_\_\_ (1967). "O normax i kolebanijax v udarenii (na materiale glagola)", Filologičeskie nauki, Naučnye doklady vysšej školy, Izd-vo "Vysšaja škola", No. 3(30), Moskva, pp. 14-22.
- Postal, Paul M. (1968). Aspects of Phonological Theory, Harper & Row, Publishers, New York, Evanston and London.
- Red'kin, V.A. (1965). "Ob akcentnyx sootnošenijax imeni i glagola v sovremennom russkom literaturnom jazyke", Voprosy jazykoznanija, No. 3, 1965, pp. 111-117.
- Smirnickij, A.I. (1962). Russian - English Dictionary, State Publishing House of Foreign and National Dictionaries, Moscow.
- Stang, Christian S. (1957). Slavonic Accentuation, I Kommisjon Hos. H. Aschehoug & Co. (W. Nygaard), Oslo.





- Sadnik, L. and R. Aitzetmüller (1965). Handwörterbuch zu den altkirchen-  
slavischen Texten, Slavic Printings and Reprintings,  
Ed. Cornelius Van Schoonveldt, Leiden University,  
Mouton & Co.
- Uluxanov, I.S. (1966). "Glagoly na -et' v sovremennom russkom jazyke",  
Razvitie slovoobrazovanija sovremennogo russkogo  
jazyka, Akademiya Nauk SSSR, Institut russkogo jazyka,  
Izd-vo "Nauka", Moskva, pp. 127-141.
- Voroncova, V.L. (1959). "O normax udarenija v glagolax na -it' v  
sovremennom russkom jazyke", Voprosy kul'tury reči,  
Akademiya Nauk SSSR, Institut russkogo jazyka, Izd-vo  
Akademii Nauk, Vypusk 2, Moskva, pp. 117-156.
- \_\_\_\_\_ (1967). "Udarenie v glagolax na -irovat'", Russkij jazyk  
za rubežom, Izd-vo Moskovskogo Gosudarstvennogo  
Universiteta, No. 2, Moskva, pp. 82-85.











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